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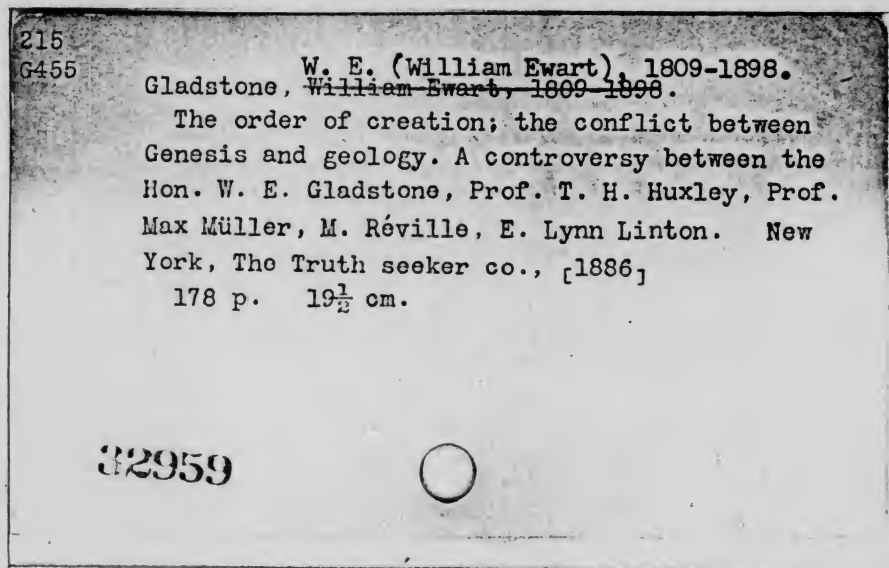
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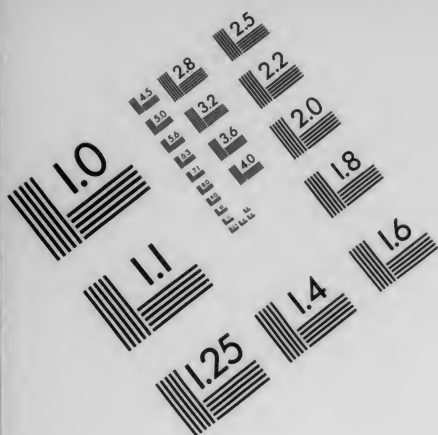
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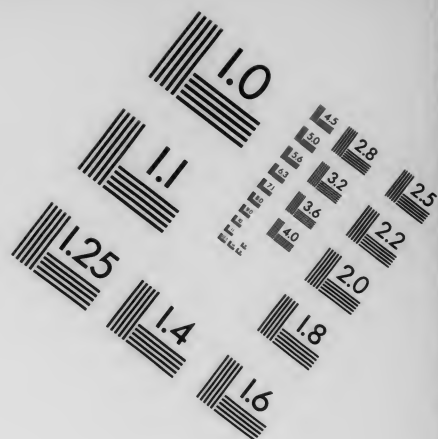
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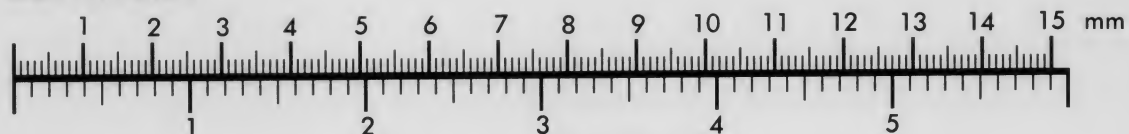
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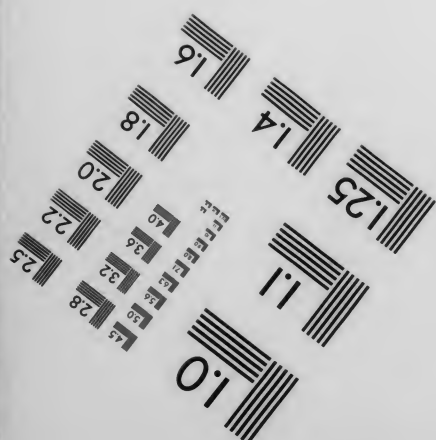
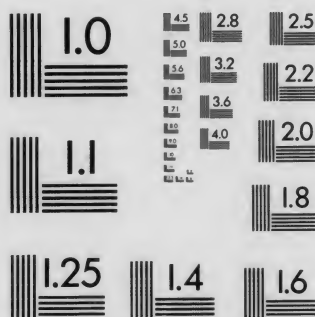
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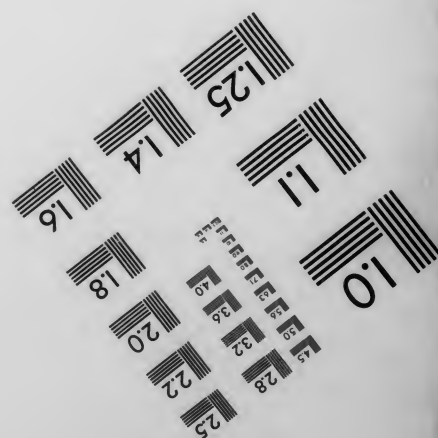
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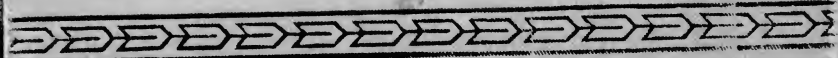


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THE
ORDER OF CREATION

THE
CONFLICT BETWEEN GENESIS
AND GEOLOGY.

A CONTROVERSY BETWEEN THE
HON. W. E. GLADSTONE, PROF. MAX MÜLLER,
PROF. T. H. HUXLEY, M. RÉVILLE,
E. LYNN LINTON.

NEW YORK:
THE TRUTH SEEKER COMPANY,
28 LAFAYETTE PLACE.

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THE ORDER OF CREATION

PAWN OF CREATION AND OF WORSHIP.

BY W. E. GLADSTONE.

Among recent works on the origin and history of religions by distinguished authors, a somewhat conspicuous place may be awarded to the *Prolegomènes de l'Histoire des Religions*, by Dr. Réville, professor in the College of France, and Hibbert Lecturer in 1884. The volume has been translated into English by Mr. Squire, and the translation* comes forth with all the advantage, and it is great, which can be conferred by an introduction from the pen of Professor Max Müller. It appears, if I may presume to speak of it, to be characterized, among other merits, by marked ingenuity and acuteness, breadth of field, great felicity of phrase, evident candor of intention, and abundant courtesy.

Whether its contents are properly placed as *prolegomena* may at once be questioned; for surely the proper office of *prolegomena* is to present preliminaries, and not results. Such is not, however, the aim of this work. It starts from assuming the subjective origin of all religions, which are viewed as so

* In his *Prolegomena to the History of Religions*. My references throughout are to the translation by Mr. Squire (Williams & Norgate, 1884).

many answers to the call of a strong human appetite for that kind of food, and are examined as the several varieties of one and the same species. The conclusions of opposing inquirers, however, are not left to be confuted by a collection of facts and testimonies drawn from historical investigation, but are thrust out of the way beforehand in the preface (for, after all, *prolegomena* can be nothing but a less homely phrase for a preface). These inquirers are so many pretenders, who have obstructed the passage of the rightful heir to his throne, and they are to be put summarily out of the way as disturbers of the public peace. The method pursued appears to be not to allow the facts and arguments to dispose of them, but to condemn them before the cause is heard. I do not know how to reconcile this method with Dr. Réville's declaration that he aims at proceeding in a "strictly scientific spirit." It might be held that such a spirit required the regular presentation of the evidence before the delivery of the verdict upon it. In any case I venture to observe that these are not truly *prolegomena*, but *epilegomena* to a history of religions not yet placed before us.

The first enemy whom Dr. Réville dispatches is M. de Bonald, as the champion of the doctrine that "in the very beginning of the human race the creative power revealed to the first men by supernatural means the essential principles of religious truth," together with "language and even the art of writing" (pp. 35, 36).

In passing, Dr. Réville observes that "the religious schools, which maintain the truth of a primitive revelation, are guided by a very evident theological interest" (*ibid.*); the Protestant, to fortify the

authority of the Bible; and the Roman Catholic, to prop the infallibility of the church.

It is doubtless true that the doctrine of a primitive revelation tends to fortify the authority of religion. But is it not equally true, and equally obvious, that the denial of a primitive revelation tends to undermine it? and, if so, might it not be retorted upon the school of Dr. Réville that the schools which deny a primitive revelation are guided by a very evident anti-theological interest?

Against this antagonist Dr. Réville observes, *inter alia* (p. 37), that an appeal to the supernatural is *per se* inadmissible; that a divine revelation, containing the sublime doctrines of the purest inspiration, given to man at an age indefinitely remote, and in a state of "absolute ignorance," is "infinitely hard" to imagine; that it is not favored by analogy; and that it contradicts all that we know of prehistoric man (p. 40). Thus far it might perhaps be contended in reply, (1) that the preliminary objection to the supernatural is a pure *petitio principii*, and wholly repugnant to "scientific method;" (2) that it is not inconceivable that revelation might be indefinitely graduated, as well as human knowledge and condition; (3) that it is in no way repugnant to analogy, if the greatest master of analogy, Bishop Butler (*Analogy*, P. II. ch. ii. § 2) may be heard upon the subject; and (4) that our earliest information about the races from which we are least remote, Aryan, Semitic, Accadian, or Egyptian, offers no contradiction and no obstacle to the idea of their having received, or inherited, portions of some knowledge divinely revealed.

But I do not now enter upon these topics, as I

have a more immediate and defined concern with the work of Dr. Réville.

It only came within the last few months to my knowledge that, at a period when my cares and labors of a distinct order were much too absorbing to allow of any attention to archeological history, Dr. Réville had done me the honor to select me as the representative of those writers who find warrant for the assertion of a primitive revelation in the testimony of the holy scriptures.

This is a distinction which I do not at all deserve; first, because Dr. Réville might have placed in the field champions much more competent and learned* than myself; secondly, because I have never attempted to give the proof of such a warrant. I have never written *ex professo* on the subject of it; but it is true that in a work published nearly thirty years ago, when destructive criticism was less advanced than it is now, I assumed it as a thing generally received, at least in this country. Upon some of the points which group themselves round that assumption my views, like those of many other inquirers, have been stated more crudely at an early, and more maturely at more than one later period. I admit that variation or development imposes a hardship upon critics, notwithstanding all their desire to be just; especially, may I say, upon such critics as, traversing ground of almost boundless extent, can hardly, except in the rarest cases, be minutely and closely acquainted with every portion of it.

* I will only name one of the most recent, Dr. Reusch, the author of "Bibel und Natur" (Bonn, 1876).

I also admit to Dr. Réville, and indeed I contend by his side, that in a historical inquiry the authority of scripture cannot be alleged in proof of the existence of a primitive revelation. So to allege it is a preliminary assumption of the supernatural, and is, in my view, a manifest departure from the laws of "scientific" procedure; as palpable a departure, may I venture to say, as that preliminary exclusion of the supernatural which I have already presumed to notice. My own offense, if it be one, was of another character; and was committed in the early days of Homeric study, when my eyes, perhaps, were dazzled with the amazing richness and variety of the results which reward all close investigation of the text of Homer, so that objects were blurred for a time in my view, which soon came to stand more clear before me.

I had better, perhaps, state at once what my contention really is. It is, first, that many important pictures drawn and indications given in the Homeric poems supply evidence that cannot be confuted not only of an ideal, but of a historical relationship to the Hebrew traditions, (1) and mainly, as they are recorded in the book of Genesis; (2) as less authentically to be gathered from the later Hebrew learning; (3) as illustrated from extraneous sources. Secondly, any attempt to expound the Olympian mythology of Homer by simple reference to a solar theory, or even to nature-worship in a larger sense, is simply a plea for a verdict against the evidence. It is also true that I have an unshaken belief in a divine revelation, not resting on assumption, but made obligatory upon me by reason. But I hold the last of these convictions entirely apart from the others, and I derived the first and second not from preconception, of

which I had not a grain, but from the poems themselves, as purely as I derived my knowledge of the Peloponnesian war from Thucydides, or his interpreters.

The great importance of this contention I do not deny. I have produced in its favor a great mass of evidence, which, as far as I have seen, there has been no serious endeavor, if, indeed, any endeavor, to repel. Dr. Réville observes that my views have been subjected to "very profound criticism" by Sir G. Cox, in his learned work on Aryan mythology (p. 41). That is, indeed, a very able criticism, but it is addressed entirely to the statements of my earliest Homeric work.* Now, apart from the question whether those statements have been rightly understood (which I cannot admit), that which he attacks is beyond and outside of the proposition which I have given above. Sir G. Cox has not attempted to decide the question whether there was a primitive revelation, or whether it may be traced in Homer. And I may say that I am myself so little satisfied with the precise form in which my general conclusions were originally clothed that I have not reprinted and shall not reprint the work, which has become very rare, only appearing now and then in some catalogue, and at a high price. When there are representatives, living and awake, why disturb the ashes of the dead? In later works, reaching from 1865 to 1875,† I have

* "Studies on Homer and the Homeric Age. 3 vols. Oxford, 1858.

† "Address to the University of Edinburgh" (Murray, 1865); "Juventus Mundi" (Macmillan, 1868); "Primer of Homer" (Macmillan, 1878); especially see Preface to "Juventus Mundi," p. 1.

confessed to the modification of my results, and have stated the case in terms which appear to me, using the common phrase, to be those yielded by the legitimate study of comparative religion. But why should those who think it a sound method of comparative religion to match together the Vedas, the Norse legends, and the Egyptian remains, think it to be no process of comparative religion to bring together, not vaguely and loosely, but in searching detail, certain traditions of the book of Genesis and those recorded in the Homeric Poems, and to argue that their resemblances may afford proof of a common origin, without any anticipatory assumption as to what that origin may be?

It will hardly excite surprise, after what has now been written, when I say I am unable to accept as mine any one of the propositions which Dr. Réville (pp. 41-2) affiliates to me. (1) I do not hold that there was a "systematic" or wilful corruption of a primitive religion. (2) I do not hold that all the mythologies are due to any such corruption, systematic or otherwise. (3) I do not hold that no part of them sprang out of the deification of natural facts. (4) I do not hold that the ideas conveyed in the book of Genesis, or in any Hebrew tradition, were developed in the form of dogma, as is said by Sir G. Cox, or in "six great doctrines" as is conceived by Dr. Réville; and (5) I am so far from ever having held that there was a "primitive orthodoxy" revealed to the first men (p. 43) that I have carefully from the first referred not to developed doctrine, but to rudimentary indications of what are now developed and established truths. So that, although Dr. Réville asks me for proof, I decline to supply proofs of what I disbe-

lieve. What I have supplied proofs of is the appearance in the Poems of a number of traits, incongruous in various degrees with their immediate environment, but having such marked and characteristic resemblances to the Hebrew tradition as to require of us, in the character of rational inquirers, the admission of a common origin, just as the markings which we sometimes notice upon the coats of horses and donkeys are held to require the admission of their relationship to the zebra.

It thus appears that Dr. Réville has discharged his pistol in the air, for my Homeric propositions involve no assumption as to a revelation contained in the book of Genesis, while he has *ex professo* contested my statements of a historical relationship between some traditions of that book and those of the Homeric poems. But I will now briefly examine (1) the manner in which Dr. Réville handles the book of Genesis, and (2) the manner in which he undertakes, by way of specimen, to construe the mythology of Homer, and enlist it, by comparison, in the support of his system of interpretation. And first with the first-named of these two subjects.

Entering a protest against assigning to the book "a dictatorial authority," that is, I presume, against its containing a divine revelation to anybody, he passes on to examine its contents. It contains, he says, scientific errors, of which (p. 42, *n.*) he specifies three. His charges are that (1) it speaks of the heaven as a solid vault; (2) it places the creation of the stars after that of the earth, and so places them solely for its use; (3) it introduces the vegetable kingdom before that kingdom could be subjected to the action of solar light. All these condemnations

are quietly enunciated in a note, as if they were subject to no dispute. Let us see.

As to the first: if our scholars are right in their judgment, just made known to the world by the recent revision of the Old Testament, the "firmament" is, in the Hebrew original, *not* a solid vault, but an expanse. As to the second (*a*) it is *not* said in the sacred text that the stars were made solely for the use of the earth; (*b*) it is true that no other use is mentioned. But we must here inquire what was the purpose of the narrative? Not to rear cosmic philosophers, but to furnish ordinary men with some idea of what the Creator had done in the way of providing for them a home, and giving them a place in nature. The advantage afforded by the stars to them is named alone, they having no interest in any other purpose for which the stars may exist.

The assertion that the stars are stated to have been "created" after the earth is more serious. But here it becomes necessary first of all to notice the recital in this part of the indictment. In the language of Dr. Réville, the book speaks of the creation of the stars after the formation of the earth. Now, curiously enough, the book says nothing either of the "formation" of the earth, or of the "creation" of the stars. It says in its first line that "in the beginning God created the heaven and the earth." It says further on (Gen. i, 16), "He made the stars also." Can it be urged that this is a fanciful distinction between creating on the one hand, and making, forming, or fashioning on the other? Dante did not think so, for speaking of the divine will, he says:

Cio ch' Ella cria, e che Natura fece.—*Paradiso*, *iii*, 87.

Luther did not think so, for he uses *schuf* in the first verse, and *machte* in the sixteenth. The English translators and their revisers did not think so, for they use the words "created" and "made" in the two passages respectively. The main question, however, is what did the author of the book think, and what did he intend to convey? The LXX drew no distinction, probably for the simple reason that, as the idea of creation proper was not familiar to the Greeks, their language conveyed no word better than *poiein* to express it, which is also the proper word for fashioning or making. But the Hebrew, it seems, had the distinction, and by the writer of Genesis it has been strictly, to Dr. Réville I might almost say scientifically, followed. He uses the word "created" on the three grand occasions (1) of the beginning of the mighty work (v. 1); (2) of the beginning of animal life (v. 21) "And God created great whales," and every living creature that peoples the waters; (3) of the yet more important beginning of rational and spiritual life; "so God created man in his own image" (v. 27). In every other instance the simple command is recited, or a word implying less than creation is employed.

From this very marked mode of use, it is surely plain that a marked distinction of sense was intended by the sacred writer. I will not attempt a definition of the distinction further than this, that the one phrase points more to calling into a separate or individual existence, the other more to shaping and fashioning the conditions of that existence; the one to *quid*, the other to *quale*. Our earth, created in v. 1, undergoes structural change, different arrangement of material, in v. 9. After this, and in the fourth

day, comes not the original creation, but the location in the firmament of the sun and the moon. On their "creation" nothing particular has been said; for no use, palpable to man, was associated with it before their perfect equipment. Does it not seem allowable to suppose that in the "heavens"* (v. 1), of which after the first outset we hear no more, were included the heavenly bodies? In any case what is afterwards conveyed is not the calling into existence of the sun and moon, but the assignment to them of a certain place and orbit respectively, with a light-giving power. Is there the smallest inconsistency in a statement which places the emergence of our land, and its separation from the sea, and the commencement of vegetable life, before the final and full concentration of light upon the sun, and its reflection on the moon and the planets? In the gradual severance of other elements would not the severance of the luminous body, or force, be gradual also? And why, let me ask of Dr. Réville, as there would plainly be light diffused before there was light concentrated, why may not that light diffused have been sufficient for the purposes of vegetation? There was soil, there was atmosphere, there was moisture, there was light. What more could be required? Need we go beyond our constant experience to be aware that the process of vegetation, though it may be suspended, is not arrested, when, through the presence of cloud and

*In our translation, and in the recent revision, the singular is used. But we are assured that the Hebrew word is plural (Bishop of Winchester on Genesis i, 1, in the Speaker's Bible). If so taken, we have the creation, visible to us, treated conjointly in verses 1-5, distributively in verses 6-19; surely a most orderly arrangement.

vapor, the sun's globe becomes to us invisible? The same observations apply to the light of the planets; while as to the other stars, such as were then perceptible to the human eye, we know nothing. The planets, being luminous bodies only through the action of the sun, could not be luminous until such a degree of light, or of light-force, was accumulated upon or in the sun, as to make them luminous, instead of being

silent as the moon,
When she deserts the night
Hid in her vacant interlunar cave.

Is it not then the fact, thus far, that the impeachment of the book has fallen to the ground? There remains to add only one remark, the propriety of which is, I think, indisputable. Easy comprehension and impressive force are the objects to be aimed at in a composition at once popular and summary; but these cannot be always had without some departure from accurate classification, and the order of minute detail. It seems much more easy to justify the language of the opening verses of Genesis than, for example, the convenient usage by which we affirm that the sun rises, or mounts above the horizon, and sets, or descends below it, when we know perfectly well that he does neither the one nor the other. As to the third charge of scientific error, that the vegetable kingdom appeared before it could be subjected to the action of solar light, it has been virtually disposed of. If the light now appropriated to the sun alone was gradually gathering toward and round him, why may it not have performed its proper office in contributing to vegetation when once the necessary degree of severance between solid and fluid, between wet and dry,

had been effected? And this is just what had been described in the formation of the firmament, and the separation of land from sea.

More singular still seems to be the next observation offered by Dr. Réville in his compound labor to satisfy his readers, first, that there is no revelation in Genesis, and secondly that, if there be, it is one which has no serious or relevant meaning. He comes to the remarkable expression in v. 26, "Let *us* make man in our own image." There has, it appears, been much difference of opinion even among the Jews on the meaning of this verse. The Almighty addresses, as some think, his own powers; as others think, the angels; others, the earth; other writers, especially, as it appears, Germans, have understood this to be a plural of dignity, after the manner of kings. Others, of the rationalizing school, conceive the word Elohim to be a relic of polytheism. The ancient Christian interpreters,* from the apostle Barnabas onward, find in these words an indication of a plurality in the divine unity. Dr. Réville (p. 43) holds that this is "simply the royal plural used in Hebrew as in many other languages," or else, "and more probably," that it is an appeal to the Bené Elohim or angels. But is not this latter meaning a direct assault upon the supreme truth of the unity of God? If he chooses the former, from whence does he derive his knowledge that this "royal plural" was used in Hebrew? Will the royal plural account for (Gen. iii, 22) "when the man is become as one of us?"

*On this expression, I refer again to the commentary of Bishop Harold Browne. Bishop Mant supplies an interesting list of testimonies.

and would George II., if saying of Charles Edward "the man is become as one of us," have intended to convey a singular or a plural meaning? Can we disprove the assertion of Bishop Harold Browne, that this plurality of dignity is unknown to the language of scripture? And further, if we make the violent assumption that the Christian Church with its one voice is wrong and Dr. Réville right, and that the words were not meant to convey the idea of plurality, yet, if they have been such as to lead all Christendom to see in them this idea through 1,800 years, how can he be sure that they did not convey a like signification to the earliest hearers or readers of the book of Genesis?

The rest of Dr. Réville's criticism is directed rather to the significance or propriety than to the truth of the record. It is not necessary to follow his remarks in detail, but it will help the reader to judge how far even a perfectly upright member of the scientific and comparative school can indulge an unconscious bias, if notice be taken in a single instance of his method of comparing. He compares together the two parts of the prediction that the seed of the woman shall bruise the head of the serpent, and that the serpent shall bruise the heel of the seed of the woman (iii, 15); and he conceives the head and the heel to be so much upon a par in their relation to the faculties and the vitality of a man that he can find here nothing to indicate which shall get the better, or, in his own words, "on which side shall be the final victory" (p. 45). St. Paul seems to have taken a different view when he wrote: "The God of peace shall bruise Satan under your feet shortly" (Rom. xvi, 20).

Moreover, "our author" (in Dr. Réville's phrase)

is censured because he "takes special care to point out [p. 44] that the first pair are as yet strangers to the most elementary notions of morality," inasmuch as they are unclothed, yet without shame; nay, even as he feelingly says, "without the least shame." In what the morality of the first pair consisted, this is hardly the place to discuss. But let us suppose for a moment that their morality was simply the morality of a little child, the undeveloped morality of obedience, without distinctly formed conceptions of an ethical or abstract standard. Is it not plain that their feelings would have been exactly what the book describes (Gen. ii, 25), and yet that in their loving obedience to their father and creator they would certainly have had a germ, let me say an opening bud, of morality? But this proposition, taken alone, by no means does justice to the case. Dr. Réville would probably put aside with indifference or contempt all that depends upon the dogma of the Fall. And yet there can be no more rational idea, no idea more palpably sustained, whether by philosophy or by experience. Namely, this idea: that the commission of sin, that is, the act of deliberately breaking a known law of duty, injures the nature and composition of the being who commits it. It injures that nature in deranging it, in altering the proportion of its parts and powers, in introducing an inward disorder and rebellion of the lower against the higher, too mournfully corresponding with that disorder and rebellion produced without, as toward God, of which the first sin was the fountain-head. Such is, I believe, the language of Christian theology, and in particular of St. Augustine, one of its prime masters. On this matter I apprehend that Dr. Réville, when judging the author of

Genesis, judges him without regard to his fundamental ideas and aims, one of which was to convey that before sinning man was a being morally and physically balanced, and nobly pure in every faculty; and that, by and from his sinning, the sense of shame found a proper and necessary place in a nature which before was only open to the sense of duty and of reverence.

One further observation only. Dr. Réville seems to "score one" when he finds (Gen. iv, 26) that Seth had a son, and that "then began men to call on the name of the Lord;" "but not," he adds, "as the result of a recorded revelation." Here at last he has found, or seemed to find, the beginning of religion, and that beginning subjective, not revealed. So hastily, from the first aspect of the text, does he gather a verbal advantage, which, upon the slightest inquiry, would have disappeared like dew in the morning sun. He assumes the rendering of a text which has been the subject of every kind of question and dispute, the only thing apparently agreed on being that his interpretation is wholly excluded. Upon a disputed original, and a disputed interpretation of the disputed original, he founds a signification in flat contradiction to the whole of the former narrative, to Elohist and Jehovist alike; which narrative, if it represents anything, represents a continuity of active reciprocal relation between God and man both before and after the transgression. Not to mention differences of translation, which essentially change the meaning of the words, the text itself is given by the double authority of the Samaritan Pentateuch* and

* See Bishop of Winchester's "Commentary."

of the Septuagint in the singular number, which of itself wholly destroys the construction of Dr. Réville. I do not enter upon the difficult question of conflicting authorities; but I urge that is unsafe to build an important conclusion upon a seriously controverted reading.*

There is nothing, then, in the criticisms of Dr. Réville but what rather tends to confirm than to impair the old-fashioned belief that there is a revelation in the book of Genesis. With his argument outside this proposition I have not dealt. I make no assumption as to what is termed a verbal inspiration, and of course in admitting the variety I give up the absolute integrity of the text. Upon the presumable age of the book and its compilation I do not enter—not even to contest the opinion which brings it down below the age of Solomon—beyond observing that in every page it appears from internal evidence to belong to a remote antiquity. There is here no question of the chronology, or of the date of man, or of knowledge or ignorance in the primitive man, or whether the element of parable enters into any portion of the narrative; or whether every statement of fact contained in the text of the book can now be made good. It is enough for my present purpose to point to the cosmogony, and the fourfold succession of the living organisms as entirely harmonizing, according to present knowledge, with belief in a revela-

* This perplexed question is discussed, in a sense adverse to the Septuagint, by the critics of the recent Revision, in the *Quarterly Review* for October, No. 322. The revisers of the Old Testament state (Preface, p. vi) that in a few cases of extreme difficulty they have set aside the Massoretic Text in favor of a reading from one of the ancient versions.

tion, and as presenting to the rejector of that belief a problem which demands solution at his hands, and which he has not yet been able to solve. Whether this revelation was conveyed to the ancestors of the whole human race who have at the time or since existed, I do not know, and the scriptures do not appear to me to make the affirmation, even if they do not convey certain indications which favor a contrary opinion. Again, whether it contains the whole of the knowledge specially vouchsafed to the parents of the Noachian races may be very doubtful; though of course great caution must be exercised in regard to the particulars of any primeval tradition not derived from the text of the earliest among the sacred books. I have thus far confined myself to rebutting objections. But I will now add some positive considerations which appear to me to sustain the ancient and, as I am persuaded, impregnable belief of Christians and of Jews concerning the inspiration of the book. I offer them as one wholly destitute of that kind of knowledge which carries authority, and who speaks derivitively as best he can, after listening to teachers of repute and such as practice rational methods.

I understand the pages of the majestic process described in the book of Genesis to be in general outline as follows:

1. The point of departure is the formless mass, created by God, out of which the earth was shaped and constituted a thing of individual existence (verses 1, 2).

2. The detachment and collection of light, leaving in darkness as it proceeded the still chaotic mass from which it was detached (verses 3-5). The narrative

assigning a space of time to each process appears to show that each was gradual, not instantaneous.

2. The detachment of light from darkness is followed by the detachment of wet from dry, and of solid from liquid in the firmament and on the face of the earth. Each of these operations occupies a "day," and the conditions of vegetable life, as known to us by experience, being now provided, the order of the vegetable kingdom had begun (verses 6-13).

4. Next comes the presentation to us of the heavenly bodies, sun, moon, and stars, in their final forms, when the completion of the process of light-collection, and concentration in the sun, and the due clearing of the intervening spaces, had enabled the central orb to illuminate us both with direct and with reflected light (verses 14-19).

5. So far, we have been busy only with the adjustment of material agencies. We now arrive at the dawn of animated being; and a great transition seems to be marked as a kind of recommencement of the work, for the name of creation is again introduced. God created

(a) The water-population;

(b) The air-population.

And they receive his benediction (verses 20-23).

6. Pursuing this regular progression from the lower to the higher, from the simple to the complex, the text now gives us the work of the sixth "day," which supplies the land-population, air and water having already been supplied. But in it there is a sub-division, and the transition from (c) animal to (d) man, like the transition from animate to inanimate, is again marked as a great occasion, a kind of recommencement. For this purpose the word "create" is

a third time employed. "God created man in his own image," and once more he gave benediction to this the final work of his hands, and endowed our race with its high dominion over what lived and what did not live (verses 24-31).

I do not dwell on the cessation of the Almighty from the creating and (ii, 1) "finishing" work, which is the "rest" and marks the seventh "day," because it introduces another order of considerations. But glancing back at the narrative which now forms the first chapter, I offer perhaps a prejudiced and in any case no more than a passing remark. If we view it as a popular narrative, it is singularly vivid, forcible, and effective; if we take it as a poem, it is indeed sublime. No wonder if it became classical and reappeared in the glorious devotions of the Hebrew people,* pursuing, in a great degree, the same order of topics as in the book of Genesis.

But the question is not here of a lofty poem, or a skilfully constructed narrative; it is whether natural science, in the patient exercise of its high calling to examine facts, finds that the works of God cry out against what we have fondly believed to be his word, and tell another tale, or whether, in this nineteenth century of Christian progress, it substantially echoes back the majestic sound which, before it existed as a pursuit, went forth into all lands.

First, looking largely at the latter portion of the narrative, which describes the creation of living organisms, and waiving details, on some of which (as in verse 24) the Septuagint seems to vary from the

* Ps. civ, 2-20, cxxxvi, 5-9, and the Song of the Three Children in verses 57-60.

Hebrew, there is a grand fourfold division set forth in an orderly succession of times as follows: on the fifth day

1. The water-population;
 2. The air-population;
- and, on the sixth day,
3. The land-population of animals;
 4. The land-population consummated in man.

Now this same fourfold order is understood to have been so affirmed in our time by natural science that it may be taken as a demonstrated conclusion and established fact. Then, I ask, how came Moses, or, not to cavil on the word, how came the author of the first chapter of Genesis, to know that order, to possess knowledge which natural science has only within the present century for the first time dug out of the bowels of the earth? It is surely impossible to avoid the conclusion, first, that either this writer was gifted with faculties passing all human experience, or else his knowledge was divine. The first branch of the alternative is truly nominal and unreal. We know the sphere within which human inquiry toils. We know the heights to which the intuitions of genius may soar. We know that in certain cases genius anticipates science; as Homer, for example, in his account of the conflict of the four winds in the sea-storms. But even in these anticipations, marvellous, and, so to speak, imperial as they are, genius cannot escape from one inexorable law. It must have materials of sense or experience to work with, and a *πρὸς τὸ ὄν* from whence to take its flight; and genius can no more tell, apart from some at least of the results attained by inquiry, what are the contents of

the crust of the earth, than it could square the circle or annihilate a fact.*

So stands a plea for a revelation of truth from God, a plea only to be met by questioning its possibility; that is, as Dr. Salmon (Introduction of the New Testament, p. ix. Murray, 1885) has observed with great force in a recent work, by suggesting that a being, able to make man, is unable to communicate with the creature he has made. If, on the other hand, the objector confine himself to a merely negative position, and cast the burden of proof on those who believe in revelation, it is obvious to reply by a reference to the actual constitution of things. Had that constitution been normal or morally undisturbed, it might have been held that revelation as an *adminiculum*, in addition to our natural faculties, would itself have been a disturbance. But the disturbance has in truth been created in the other scale of the balance by departure from the supreme will, by the introduction of sin; and revelation, as a special remedy for a special evil, is a contribution toward symmetry, and toward restoration of the original equilibrium.

Thus far only the fourfold succession of the living orders has been noticed. But among the persons of very high authority in natural science quoted by Dr. Reusch,† who held the general accordance of the

*In conversation with Miss Burney (Diary i, 576), Johnson, using language which sounds more disparaging than it really is, declares that "genius is nothing more than knowing the use of tools; but then there must be tools for it to use."

†Bibel und Natur, pp. 2, 63. The words of Cuvier are: "Moyses hat uns eine Kosmogonie hinterlassen, deren Genauigkeit mit jedem Tag in einer bewunderungswürdigern

Mosaic cosmogony with the results of modern inquiry, are Cuvier and Sir John Herschel. The words of Cuvier show he conceived that "every day" fresh confirmation from the purely human source accrued to the credit of scripture. And since his day, for he cannot now be called a recent authority, this opinion appears to have received some remarkable illustrations.

Half a century ago Dr. Whewell (Whewell's Astronomy and General Physics, 1834, p. 181, *seqq.*) discussed, under the name of the nebular hypothesis, that theory of rotation which had been indicated by Herschel, and more largely taught by Laplace, as the probable method through which the solar system has taken its form. Carefully abstaining, at that early date, from a formal judgment on the hypothesis, he appears to discuss it with favor; and he shows that this hypothesis, which assumes "a beginning of the present state of things" (Whewell, *op. cit.* p. 206), is in no way adverse to the Mosaic cosmogony. The theory has received marked support from opposite quarters. In the "Vestiges of Creation" it is frankly adopted; the very curious experiment of Professor Plateau is detailed at length on its behalf (Vestiges, etc., pp. 11-15); and the author considers, with Laplace, that the zodiacal light, on which Humboldt in his "Kosmos" has dwelt at large, may be a remnant of the luminous atmosphere originally diffused around the sun. Dr. McCaul, in his very able argument on the Mosaic record, quotes (Aids to Faith, p. 210) Humboldt, Pfaff and Mädler—a famous German

Weise bestätigt ist." The declaration of Sir John Herschel was in 1864.

astronomer—as adhering to it. It appears on the whole to be in possession of the field; and Mr. McCaul observes (*ibid*) that, “had it been devised for the express purpose of removing the supposed difficulties of the Mosaic record, it could hardly have been more to the purpose.” Even if we conceive, with Dr. Réville, that the “creation,” the first gift of separate existences to the planets, is declared to have been subsequent to that of the earth, there seems to be no known law which excludes such a supposition, especially with respect to the larger and more distant of their number. These, it is to be noticed, are of great rarity as compared with the earth. Why should it be declared impossible that they should have taken a longer time in condensation, like in this point to the comets, which still continue in a state of excessive rarity? Want of space forbids me to enter into further explanation; but it requires much more serious efforts and objections than those of Dr Réville to confute the statement that the extension of knowledge and of inquiry has confirmed the Mosaic record.

One word, however, upon the “days” of Genesis. We do not hear the authority of scripture impeached on the ground that it assigns to the Almighty eyes and ears, hands, arms, and feet; nay, even the emotions of the human being. This being so, I am unable to understand why any disparagement to the credit of the sacred books should ensue because, to describe the order and successive stages of the divine working, these have been distributed into “days.” What was the thing required in order to make this great procession of acts intelligible and impressive? Surely it was to distribute the parts each into some integral

division of time, having the character of something complete in itself, of a revolution, or outset and return. There are but three such divisions familiarly known to man. Of these the day was the most familiar to human perceptions; and probably on this account its figurative use is admitted to be found in prophetic texts, as, indeed, it largely pervades ancient and modern speech. Given the object in view, which indeed can hardly be questioned, does it not appear that the “day,” more definitely separated than either month or year from what precedes and what follows, was appropriately chosen for the purpose of conveying the idea of development by gradation in the process which the book sets forth?

I now come to the last portion of my task, which is to follow Dr. Réville into his exposition of the Olympian mythology. Not, indeed, the Homeric or Greek religion alone, for he has considered the case of all religions, and disposes of them with equal facility. Of any other system than the Olympian it would be presumption in me to speak, as I have, beyond this limit, none but the most vague and superficial knowledge. But on the Olympian system in its earliest and least adulterated, namely its Homeric development, whether with success or not, I have freely employed a large share of such leisure as more than thirty years of my Parliamentary life, passed in freedom from the calls of office, have supplied. I hope that there is not in Dr. Réville’s treatment of other systems that slightness of texture, and that facility and rapidity of conclusion, which seem to me to mark his performances in the Olympian field.

In the main he follows what is called the solar

theory. In his widest view he embraces no more than "the religion of nature" (pp. 94, 100), and he holds that all religion has sprung from the worship of objects visible and sensible.

His first essay is upon Heracles, whom I have found to be one of the most difficult and, so to speak, irreducible characters in the Olympian mythology. In the Tyrian system Heracles, as Melkart, says Dr. Réville in p. 95, is "a brazen god, the devourer of children, the terror of men;" but, without any loss of identity, he becomes in the Greek system, "the great lawgiver, the tamer of monsters, the peacemaker, the liberator." I am deeply impressed with the danger that lurks in these summary and easy solutions; and I will offer a few words first on the Greek Heracles generally, next on the Homeric presentation of the character.

Dr. L. Schmidt has contributed to Smith's great dictionary a large and careful article on Heracles; an article which may almost be called a treatise. Unlike Dr. Réville, to whom the matter is so clear, he finds himself out of his depth in attempting to deal with this highly incongruous character, which meets us at so many points, as a whole. But he perceives in the Heracles of Greece a mixture of fabulous and historic elements: and the mythical basis is not, according to him, a transplanted Melkart, but is essentially Greek (Smith's Dict. ii, 400). He refers to Buttmann's "Mythologus" and Müller's "Dorians" as the best treatises on the subject, "both of which regard the hero as a purely Greek character." Thus Dr. Réville appears to be in conflict with the leading authorities, whom he does not confute, but simply ignores.

Homer himself may have felt the difficulty which

Dr. Réville does not feel, for he presents to us, in one and the same passage, a divided Heracles. Whatever of him is not *eidolon* (Od. xi, 601-4) dwells among the Olympian gods. This *eidolon*, however, is no mere shade, but something that sees and speaks, that mourns and threatens; no "lawgiver," or "peacemaker," or "liberator," but one from whom the other shades fly in terror, set in the place and company of sinners suffering for their sins, and presumably himself in the same predicament, as the sense of grief assigned to him: it is in wailing that he addresses Odysseus (Od. xi, 605-16). Accordingly, while on earth, he is *thrasumemnon* (Od. xi, 267), *hyperthumos* (Il. xiv, 250), a doer of *megala erga* (Od. xxi, 26), which with Homer commonly are crimes. He is profane, for he wounded Herè, the specially Achaian goddess (Il. v. 392); and he is treacherous, for he killed Iphitos, his host, in order to carry off his horses (Od. xxi, 26-30). A mixed character, no doubt, or he would not have had Hebè for a partner; but those which I have stated are some of the difficulties which Dr. Réville quietly rides over to describe him as a lawgiver, peacemaker, and liberator. But I proceed.

Nearly everything, with Dr. Réville, and, indeed, with his school, has to be pressed into the service of the solar theory; and if the evidence will not bear it, so much the worse for the evidence. Thus Ixion, tortured in the later Greek system on a wheel, which is sometimes represented as a burning wheel, is made (p. 105) to be the sun; the luminary whose splendor and beneficence had rendered him, according to the theory, the center of all Aryan worship. A sorry use to put him to; but let that pass. Now the occasion

that supplies an Ixion and a burning wheel available for solarism—a system which prides itself above all things on its exhibiting the primitive state of things—is that Ixion has loved unlawfully the wife of Zeus. And first as to the wheel. We hear of it in Pindar (Pyth. ii, 39); but as a winged, not a burning wheel. This “solar” feature appears, I believe, nowhere but in the latest and most defaced and adulterated mythology. Next as to the punishment. It is of a more respectable antiquity. But some heed should surely be taken of the fact that the oldest authority upon Ixion is Homer; and that Homer affords no plea for a burning or any other wheel, for according to him (Il. xiv, 317), instead of Ixion’s loving the wife of Zeus, it was Zeus who loved the wife of Ixion.

Errors, conveyed without testimony in a sentence, commonly require many sentences to confute them. I will not dwell on minor cases, or those purely fanciful; for mere fancies, which may be admired or the reverse, are impalpable to the clutch of argument, and thus are hardly subjects for confutation. *Paulò majora canamus*. I continue to tread the field of Greek mythology, because it is the favorite sporting-ground of the exclusivists of the solar theory.

We are told (p. 80) that because waves with rounded backs may have the appearance (but query) of horses or sheep throwing themselves tumultuously upon one another, therefore “in maritime regions, the god of the liquid element, Poseidon or Neptune, is the breeder, protector, and trainer of horses.” Then why is he not also the breeder, protector, and trainer of sheep? They have quite as good a maritime title; according to the first line of Ariosto:

Muggendo van per mare, i gran montoni.

I am altogether skeptical about these rounded backs of horses, which, more, it seems, than other backs, become conspicuous like a wave. The resemblance, I believe, has commonly been drawn between the horse, as regards his mane, and the foam-tipped waves, which are still sometimes called white horses. But we have here, at best, a case of great superstructure built upon a slight foundation; when it is attempted, on the groundwork of a mere simile, having reference to a state of sea which in the Mediterranean is not the rule but the rare exception, to frame an explanation of the close, pervading, and almost profound relation of the Homeric Poseidon to the horse. Long and careful investigation has shown me that this is an ethnical relation, and a key to important parts of the ethnography of Homer. But the proof of this proposition would require an essay of itself. I will, therefore, only refer to the reason which leads Dr. Réville to construct this (let me say) castle in the air. It is because he thinks he is accounting hereby for a fact, which would indeed, if established, be a startling one, that the god of the liquid element should also be the god of the horse. We are dealing now especially with the Homeric Poseidon, for it is in Homer that the relation to the horse is developed; and the way to a true explanation is opened when we observe that the Homeric Poseidon is *not* the god of the liquid element at all.

The truth is that the Olympian and ruling gods of Homer are not elemental. Some few of them bear the marks of having been elemental in other systems; but, on admission into the Achaian heaven, they are divested of their elemental features. In the case of

Poseidon there is no sign that he ever had these elemental features. The signs are unequivocal that he had been worshiped as supreme, as the Zeus-Poseidon, by certain races and in certain, viz. in far southern, countries. Certainly he has a special relation to the sea. Once, and once only, do we hear of his having habitation under the water (Il. xiii, 17-31). It is in Il. xiii where he fetches his horses from it, to repair to the Trojan plain. He seems to have been an habitual absentee; the prototype, he might be called, of that ill-starred, ill-favored class. We hear of him in Samothrace, on the Solymian mountains, as visiting the Ethiopians (Od. i, 25, 26), who worshipped him, and the reek of whose offerings he preferred at such times to the society of the Olympian gods debating on Helenic affairs; though, when we are in the zone of the outer geography, we find him actually presiding in an Olympian assembly marked with foreign associations (Od. viii, 321-66). Now compare with this great mundane figure the true elemental gods of Homer; first Okeanos, a venerable figure, who dwells appropriately by the furthest (Il. xiv, 201) bound of earth, the bank of the Ocean river, and who is not summoned (Il. xx, 7) even to the great Olympian assembly of the twentieth book; and secondly, the graybeard of the sea, whom only from the patronymic of his Nereid daughters we know to have been called Nereus, and who, when reference is made to him and his train, is on each occasion (Il. i, 358; xviii, 36) to be found in one and the same place, the deep recesses of the Mediterranean waters. If Dr. Réville still doubts who was for Homer the elemental god of water, let him note the fact that while *neros* is old Greek for *wet*, *nero* is, down to this

very day, the people's word for water. But, conclusive as are these considerations, their force will be most fully appreciated only by those who have closely observed that Homer's entire theurgic system is resolutely exclusive or nature-worship, except in its lowest and most colorless orders, and that where he has to deal with a nature-power of serious pretensions, such as the water-god would be, he is apt to pursue a method of quiet suppression, by local banishment or otherwise, that space may be left him to play out upon his board the gorgeous and imposing figures of his theanthropic system.

As a surgeon performs the most terrible operation in a few seconds, and with unbroken calm, so does the school of Dr. Réville, at least within the Homeric precinct, marshal, label, and transmute the personages that are found there. In touching on the "log," by which Dr. Réville says Hera was represented for ages, she is quietly described as the "queen of the shining heaven" (p. 79). For this assumption, so naïvely made, I am aware of no authority whatever among the Greeks—a somewhat formidable difficulty for others than solarists, as we are dealing with an eminently Greek conception. Euripides, a rather late authority, says (Eurip. Helena, 109), she dwells among the stars, as all deities might be said, *ex officio*, to do; but gives no indication either of identity or of queenship. Etymology, stoutly disputed, may afford a refuge. Schmidt (Smith's Dict., art. "Hera") refers the name to the Latin *hera*; Curtius (Griech. Etymol., p. 119) and Preller (Preller, Griech. Mythol. i, 121) to the Sanscrit *svar*, meaning the heaven; and Welcker (Griech. Götterlehre i, 362-3), with others, to what

appears the more obvious form of, $\epsilon\rho\alpha$, the earth. Dr. Réville, I presume, makes choice of the Sanscrit *svar*. Such etymologies, however, are, though greatly in favor with the solarists, most uncertain guides to Greek interpretation. The effect of trusting to them is that, if a deity has in some foreign or anterior system had a certain place or office, and if this place or office has been altered to suit the exigencies of a composite mythology, the Greek idea is totally misconceived. If we take the pre-name of the Homeric Apollo, we may with some plausibility say the *Phoibos* of the poet is the sun; but we are landed at once in the absurd consequence that we have got a sun already (See *infra*.) and that the two are joint actors in a scene of the eighth "Odyssey" (Od. viii, 302, 334). Strange, indeed, will be the effect of such a system if applied to our own case at some date in the far-off future; for it will be shown, *inter alia*, that there were no priests, but only presbyters, in any portion of Western Christendom; that our dukes were simply generals leading us in war; that we broke our fast at eight in the evening (for *dîner* is but a compression of *déjeuner*); and even, possibly, that one of the noblest and most famous of English houses pursued habitually the humble occupation of a pig-driver.

The character of Hera, or Heré, has received from Homer a full and elaborate development. There is in it absolutely no trace whatever of "the queen of the shining heaven." In the action of the "Odyssey" she has no share at all—a fact absolutely unaccountable if her function was one for which the voyages of that poem give much more scope than is supplied by the "Iliad." The fact is that there is no queen of

heaven in the Achaian system; nor could there be without altering its whole genius. It is a curious incidental fact that, although Homer recognizes to some extent humanity in the stars (I refer to Orion and Leucotheë, both of them foreign personages of the outer geography), he never even approximates to a personification of the real queen of heaven, namely, the moon. There happens to be one marked incident of the action of Hera, which stands in rather ludicrous contrast with this lucent queenship. On one occasion when, in virtue of her birth and station, she exercises some supreme prerogative, she directs the sun (surely not so to her lord and master) to set, and he reluctantly obeys (Il. xviii, 239, 240). Her character has not any pronounced moral elements; it exhibits pride and passion; it is pervaded intensely with policy and nationalism; she is beyond all others the Achaian goddess, and it is sarcastically imputed to her by Zeus that she would cut the Trojans if she could, and eat them without requiring in the first instance any culinary process (Il. iv, 35). I humbly protest against mauling and disfiguring this work; against what great Walter Scott would, I think, have called "mashackering and misjuggling" it, after the manner of Nicol Muschat, when he put an end to his wife Ailie (Heart of Midlothian) at the spot afterward marked by his name. Why blur the picture so charged alike with imaginative power and with historic meaning, by the violent obtrusion of ideas, which, whatever force they may have had among other peoples or in other systems, it was one of the main purposes of Homer, in his marvellous theurgic work, to expel from all high place in the order of

ideas, and from every corner, every loft and every cellar, so to speak, of his Olympian palaces?

If the Hera of Homer is to own a relationship outside the Achaian system, like that of Apollo to the sun, it is undoubtedly with Gaia, the earth, that it can be most easily established. The all-producing function of Gaia in the Theogony of Hesiod (Theog. 116-136) and her marriage with Ouranos, the heaven, who has a partial relation to Zeus, points to Hera as the majestic successor who in the Olympian scheme, as the great mother and guardian of maternity, bore an analogical resemblance to the female head of one or more of the Pelasgian or Achaic theogonies that it had deposed.

I have now done with the treatment of details, and I must not quit them without saying that there are some of the chapters, and many of the sentences, of Dr. Réville which appear to me to deserve our thanks. And much as I differ from him concerning an essential part of the historic basis of religion, I trust that nothing which I have said can appear to impute to him any hostility or indifference to the substance of religion itself.

I make, indeed, no question that the solar theory has a most important place in solving the problems presented by many or some of the Aryan religions; but whether it explains their first inception is a totally different matter. When it is ruthlessly applied, in the teeth of evidence, to them all, in the last resort it stifles facts, and reduces observation and reasoning to a mockery. Sir George Cox, its able advocate, fastens upon the admission that some one particular method is not available for all the phenomena, and asks, Why not adopt for the Greek system, for the

Aryan systems at large, perhaps for a still wider range, "a clear and simple explanation," namely, the solar theory (Mythology of Aryan Nations, i, 18)? The plain answer to the question is that this must not be done, because, if it is done, we do not follow the facts, nor are led by them; but to use the remarkable phrase of Æschylus, we ride them down, we trample them under foot. Mankind has long been too familiar with a race of practitioners, whom courtesy forbids to name, and whose single medicine is alike available to deal with every one of the thousand figures of disease. There are surely many sources to which the old religions are referable. We have solar worship, earth worship, astronomic worship, the worship of animals, the worship of evil powers, the worship of abstractions, the worship of the dead, the foul and polluting worship of bodily organs, so widespread in the world, and especially in the East; last, but not least, I will name terminal worship, the remarkable and most important scheme which grew up, perhaps first on the Nile, in connection with the stones used for marking boundaries, which finds its principal representative in the god Hermes, and which is very largely traced and exhibited in the first volume of the work of M. Dulaure (*Histoire abrégée de differens Cultes. Seconde édition. Paris, 1825.*) on ancient religions.

But none of these circumstances discredits or impairs the proof that in the book, of which Genesis is the opening section, there is conveyed special knowledge to meet the special need everywhere so palpable in the state and history of our race. Far indeed am I from asserting that this precious gift, or that any process known to me, disposes of all the problems,

either insoluble or unsolved, by which we are surrounded; of

the burden and the mystery
Of all this unintelligible world.

But I own my surprise not only at the fact, but at the manner in which in this day, writers, whose name is legion, unimpeached in character and abounding in talent, not only put away from them, cast into a shadow or into the very gulf of negation itself, the conception of a deity, an acting and a ruling deity. Of this belief, which has satisfied the doubts and wiped away the tears, and found guidance for the footsteps of so many a weary wanderer on earth, which among the best and greatest of our race has been so cherished by those who had it, and so longed and sought for by those who had it not, we might suppose that if at length we had discovered that it was in the light of truth untenable, that the accumulated testimony of man was worthless, and that his wisdom was but folly, yet at least the decencies of mourning would be vouchsafed to this irreparable loss. Instead of this, it is with a joy and exultation that might almost recall the frantic orgies of the Commune, that this, at least at first sight, terrific and overwhelming calamity is accepted, and recorded as a gain. One recent, and in many ways respected writer—a woman long wont to unship creed as sailors discharge excess of cargo in a storm, and passing at length into formal Atheism—rejoices to find herself on the open, free, and “breezy common of humanity.” Another, also a woman,* and dealing only with the workings and manifestations of

* I do not quote names, but I refer to a very recent article in one of our monthly periodicals.

God, finds in the theory of a physical evolution as recently developed by Mr. Darwin, and received with extensive favor, both an emancipation from error and a novelty in kind. She rejoices to think that now at last Darwin “shows life as a harmonious whole, and makes the future stride possible by the past advance.” Evolution, that is, physical evolution, which alone is in view, may be true (like the solar theory), may be delightful and wonderful, in its right place; but are we really to understand that varieties of animals brought about through domestication, the wasting of organs (for instance, the tails of men) by disuse, that natural selection and the survival of the fittest, all in the physical order, exhibit to us the great *arcantum* of creation, the sun and center of life, so that mind and spirit are dethroned from their old supremacy, are no longer sovereign by right, but may find somewhere by charity a placed assigned them, as appendages, perhaps only as excrescences, of the material creation? I contend that evolution in its highest form has not been a thing heretofore unknown to history, to philosophy, or to theology. I contend that it was before the mind of St. Paul when he taught that in the fulness of time God sent forth his son, and of Eusebius, when he wrote the “Preparation for the Gospel,” and of Augustine, when he composed the “City of God;” and, beautiful and splendid as are the lessons taught by natural objects, they are, for Christendom at least, indefinitely beneath the sublime unfolding of the great drama of human action, in which, through long ages, Greece was making ready a language and an intellectual type, and Rome a framework of order and an idea of law, such that in them were to be shaped and fashioned

the destinies of a regenerated world. For those who believe that the old foundations are unshaken still, and that the fabric built upon them will look down for ages on the floating wreck of many a modern and boastful theory, it is difficult to see anything but infatuation in the destructive temperament which leads to the notion that to substitute a blind mechanism for the hand of God in the affairs of life is to enlarge the scope of remedial agency; that to dismiss the highest of all inspirations is to elevate the strain of human thought and life; and that each of us is to rejoice that our several units are to be disintegrated at death into "countless millions of organisms;" for such, it seems, is the latest "revelation" delivered from the fragile tripod of a modern Delphi. Assuredly on the minds of those who believe, or else on the minds of those who after this fashion disbelieve, there lies some deep judicial darkness, a darkness that may be felt. While disbelief in the eyes of faith is a sore calamity, this kind of disbelief, which renounces and repudiates with more than satisfaction what is brightest and best in the inheritance of man, is astounding, and might be deemed incredible. Nay, some will say, rather than accept the flimsy and hollow consolations which it makes bold to offer, might we not go back to solar adoration, or, with Goethe, to the hollows of Olympus?

Wenn die Funke sprüht,
Wenn die Asche glüht,
Ellen wir den alten Göttern zu.*

W. E. GLADSTONE.

*Literally:

When the sparkles flow,
When the ashes glow,
Hasten we the olden gods unto.

—Bride of Corinth.

THE INTERPRETERS OF GENESIS AND THE INTERPRETERS OF NATURE.

A REPLY TO MR. GLADSTONE'S "DAWN OF CREATION AND OF
WORSHIP."

BY PROF. T. H. HUXLEY.

Our fabulist warns "those who in quarrels interpose" of the fate which is probably in store for them; and, in venturing to place myself between so powerful a controversialist as Mr. Gladstone and the eminent divine whom he assaults with such vigor in the last number of this *Review*, I am fully aware that I run great danger of verifying Gay's prediction. Moreover, it is quite possible that my zeal in offering aid to a combatant so extremely well able to take care of himself as M. Réville may be thought to savor of indiscretion.

Two considerations, however, have led me to face the double risk. The one is that though, in my judgment, M. Réville is wholly in the right in that part of the controversy to which I propose to restrict my observations, nevertheless, he, as a foreigner, has very little chance of making the truth prevail with Englishmen against the authority and the dialectic skill of the greatest master of persuasive rhetoric among English-speaking men of our time. As the queen's proctor intervenes, in certain cases, between two litigants in the interests of justice, so it may be permitted me to interpose as a sort of uncommissioned science proctor. My second excuse for my

meddlesomeness is that important questions of natural science—respecting which neither of the combatants professes to speak as an expert—are involved in the controversy; and I think it is desirable that the public should know what it is that natural science really has to say on these topics, to the best belief of one who has been a diligent student of natural science for the last forty years.

The original *Prolégomènes de l'histoire des Religions* has not come in my way; but I have read the translation of M. Réville's work, published in England under the auspices of Prof. Max Müller, with very great interest. It puts more fairly and clearly than any book previously known to me the view which a man of strong religious feelings, but at the same time possessing the information and the reasoning power which enable him to estimate the strength of scientific methods of inquiry, and the weight of scientific truth, may be expected to take of the relation between science and religion.

In the chapter on "The Primitive Revelation," the scientific worth of the account of creation given in the book of Genesis is estimated in terms which are as unquestionably respectful as, in my judgment, they are just; and, at the end of the chapter on "Primitive Tradition," M. Réville appraises the value of pentateuchal anthropology in a way which I should have thought sure of enlisting the assent of all competent judges, even if it were extended to the whole of the cosmogony and biology of Genesis:

As, however, the original traditions of nations sprang up in an epoch less remote than our own from the primitive life, it is indispensable to consult them, to compare them, and to associate them with other sources of information which are

available. From this point of view, the traditions recorded in Genesis possess, in addition to their own peculiar charm, a value of the highest order; but we cannot ultimately see in them more than a venerable fragment, well deserving attention, of the great genesis of mankind.

Mr. Gladstone is of a different mind. He dissents from M. Réville's views respecting the proper estimation of the pentateuchal traditions no less than he does from his interpretation of those Homeric myths which have been the object of his own special study. In the latter case, Mr. Gladstone tells M. Réville that he is wrong on his own authority, to which, in such a matter, all will pay due respect; in the former, he affirms himself to be "wholly destitute of that kind of knowledge which carries authority," and his rebuke is administered in the name and by the authority of natural science.

An air of magisterial gravity hangs about the following passage:

But the question is not here of a lofty poem, or a skilfully constructed narrative; it is whether natural science, in the patient exercise of its high calling to examine facts, finds that the works of God cry out against what we have fondly believed to be his word, and tell another tale; or whether, in this nineteenth century of Christian progress, it substantially echoes back the majestic sound, which, before it existed as a pursuit, went forth into all lands.

First, looking largely at the latter portion of the narrative, which describes the creation of living organisms, and waiving details, on some of which (as in verse 24) the Septuagint seems to vary from the Hebrew, there is a grand fourfold division, set forth in an orderly succession of times as follows: on the fifth day.

1. The water-population,
 2. The air-population,
- and, on the sixth day,

3. The land-population of animals,
4. The land-population consummated in man.

Now this same fourfold order is understood to have been so affirmed in our time by natural science that it may be taken as a demonstrated conclusion and established fact (p. 696).

"Understood?" By whom? I cannot bring myself to imagine that Mr. Gladstone has made so solemn and authoritative a statement on a matter of this importance without due inquiry—without being able to found himself upon recognized scientific authority. But I wish he had thought fit to name the source from whence he has derived his information, as in that case I could have dealt with his authority, and I should have thereby escaped the appearance of making an attack on Mr. Gladstone himself, which is in every way distasteful to me.

For I can meet the statement in the last paragraph of the above citation with nothing but a direct negative. If I know anything at all about the results attained by the natural science of our time, it is "a demonstrated conclusion and established fact" that the "fourfold order" given by Mr. Gladstone is not that in which the evidence at our disposal tends to show that the water, air, and land populations of the globe have made their appearance.

Perhaps I may be told that Mr. Gladstone does give his authority—that he cites Cuvier, Sir John Herschel, and Dr. Whewell in support of his case. If that has been Mr. Gladstone's intention in mentioning these eminent names, I may remark that, on this particular question, the only relevant authority is that of Cuvier. But, great as Cuvier was, it is to be remembered that, as Mr. Gladstone incidentally remarks, he cannot now be called a recent authority.

In fact, he has been dead more than half a century, and the paleontology of our day is related to that of his very much as the geography of the sixteenth century is related to that of the fourteenth. Since 1832, when Cuvier died, not only a new world, but new worlds, of ancient life have been discovered; and those who have most faithfully carried on the work of the chief founder of paleontology have done most to invalidate the essentially negative grounds of his speculative adherence to tradition.

If Mr. Gladstone's latest information on these matters is derived from the famous discourse prefixed to the *Ossements Fossiles*, I can understand the position he has taken up; if he has ever opened a respectable modern manual of paleontology or geology, I cannot. For the facts which demolish his whole argument are of the commonest notoriety. But before proceeding to consider the evidence for this assertion we must be clear about the meaning of the phraseology employed.

I apprehend that when Mr. Gladstone uses the term "water-population" he means those animals which in Genesis i, 21 (Revised Version) are spoken of as "the great sea monsters and every living creature that moveth, which the waters brought forth abundantly, after their kind." And I presume that it will be agreed that whales and porpoises, sea fishes, and the innumerable hosts of marine invertebrated animals, are meant thereby. So "air-population" must be the equivalent of "fowl" in verse 20, and "every winged fowl after its kind," verse 21. I suppose I may take it for granted that by "fowl" we have here to understand birds—at any rate, primarily. Secondly, it may be that bats, and the extinct pter-

odactyles, which were flying reptiles, come under the same head. But whether all insects are "creeping things" of the land-population, or whether flying insects are to be included under the denomination of "winged fowl," is a point for the decision of Hebrew exegetes. Lastly, I suppose I may assume that "land-population" signifies "the cattle" and "the beast of the earth," and "every creeping thing that creepeth upon the earth," in verses 25 and 26; presumably it comprehends all kinds of terrestrial animals, vertebrate and invertebrate, except such as may be comprised under the head of the "air-population."

Now, what I want to make clear is this, that if the terms, "water-population," "air-population," and "land-population," are understood in the senses here defined, natural science has nothing to say in favor of the proposition that they succeeded one another in the order given by Mr. Gladstone; but that, on the contrary, all the evidence we possess goes to prove that they did not. Whence it will follow that, if Mr. Gladstone has interpreted Genesis rightly (on which point I am most anxious to be understood to offer no opinion), that interpretation is wholly irreconcilable with the conclusions at present accepted by the interpreters of nature—with everything that can be called "a demonstrated conclusion and established fact" of natural science. And be it observed that I am not here dealing with a question of speculation, but with a question of fact.

Either the geological record is sufficiently complete to afford us a means of determining the order in which animals have made their appearance on the globe or it is not. If it is, the determination of that order is little more than a mere matter of observa-

tion; if it is not, then natural science neither affirms nor refutes the "fourfold order," but is simply silent.

The series of the fossiliferous deposits, which contain the remains of the animals which have lived on the earth in past ages of its history, and which can alone afford the evidence required by natural science of the order of appearance of their different species, may be grouped in the manner shown in the left-hand column of the following table, the oldest being at the bottom:

FORMATIONS.	FIRST KNOWN APPEARANCE OF
Quaternary.	
Pliocene.	
Miocene.	
Eocene.	Vertebrate air-population (bats).
Cretaceous.	
Jurassic.	Vertebrate air-population (birds and pterodactyles).
Triassic.	
Upper Paleozoic.	
Middle Paleozoic.	Vertebrate land-population (<i>amphibia</i> , <i>reptilia</i> [?]).
Lower Paleozoic.	Vertebrate water-population (fishes).
Silurian.	Invertebrate air and land population (flying insects and scorpions).
	Invertebrate water-population (much earlier, if <i>ozoön</i> is animal).
Cambrian.	

In the right-hand column I have noted the group of strata in which, according to our present information, the *land*, *air*, and *water* populations appear for the first time; and, in consequence of the ambiguity about the meaning of "fowl," I have separately indicated the first appearance of bats, birds, flying reptiles, and flying insects. It will be observed that, if "fowl" means only "bird," or at most flying vertebrate, then the first certain evidence of the latter, in the Jurassic epoch, is posterior to the first appearance of truly terrestrial *amphibia*, and possibly of true

reptiles, in the Carboniferous epoch (Middle Paleozoic) by a prodigious interval of time.

The water-population of vertebrated animals first appears in the Upper Silurian. Therefore, if we found ourselves on vertebrated animals, and take "fowl" to mean birds only, or at most flying vertebrates, natural science says that the order of succession was water, land, and air-population, and not—as Mr. Gladstone, founding himself on Genesis, says—water, air, land-population. If a chronicler of Greece affirmed that the age of Alexander preceded that of Pericles, and immediately succeeded that of the Trojan war, Mr. Gladstone would hardly say that this order is "understood to have been so affirmed by historical science that it may be taken as a demonstrated conclusion and established fact." Yet natural science "affirms" his "four-fold order" to exactly the same extent—neither more nor less.

Suppose, however, that "fowl" is to be taken to include flying insects. In that case the first appearance of an air-population must be shifted back for long ages, recent discovery having shown that they occur in rocks of Silurian age. Hence there might still have been hope for the fourfold order were it not that the fates unkindly determined that scorpions—"creeping things that creep on the earth" *par excellence*—turned up in Silurian strata nearly at the same time. So that if the word in the original Hebrew translated "fowl" should really after all mean "cockroach"—and I have great faith in the elasticity of that tongue in the hands of biblical exegetes—the order primarily suggested by the existing evidence:

2. Land and air-population,
1. Water-population,

and Mr. Gladstone's order:

3. Land-population,
2. Air-population,
1. Water-population,

can by no means be made to coincide. As a matter of fact, then, the statement so confidently put forward turns out to be devoid of foundation and in direct contradiction of the evidence at present at our disposal.*

If, stepping beyond that which may be learned from the facts of the successive appearance of the forms of animal life upon the surface of the globe, in so far as they are yet made known to us by natural science, we apply our reasoning faculties to the task of finding out what those observed facts mean, the present conclusions of the interpreters of nature appear to be no less directly in conflict with those of the latest interpreters of Genesis.

* It may be objected that I have not put the case fairly, inasmuch as the solitary insect's wing which was discovered twelve months ago in Silurian rocks, and which is at present the sole evidence of insects older than the Devonian epoch, came from strata of Middle Silurian age, and is therefore older than the scorpions which within the last two years have been found in Upper Silurian strata in Sweden, Britain, and the United States. But no one who comprehends the nature of the evidence afforded by fossil remains would venture to say that the non-discovery of scorpions in the Middle Silurian strata up to this time affords any more ground for supposing that they did not exist than the non-discovery of flying insects in the Upper Silurian strata up to this time throws any doubt on the certainty that they existed, which is derived from the occurrence of the wing in the Middle Silurian. In fact, I have stretched a point in admitting that these fossils afford a colorable pretext for the assumption that the land and air-population were of contemporaneous origin.

Mr. Gladstone appears to admit that there is some truth in the doctrine of evolution, and indeed places it under very high patronage:

I contend that evolution in its highest form has not been a thing heretofore unknown to history, to philosophy, or to theology. I contend that it was before the mind of St. Paul when he taught that in the fulness of time God sent forth his son, and of Eusebius, when he wrote the "Preparation for the Gospel," and of Augustine when he composed the "City of God" (p. 706).

Has any one ever disputed the contention thus solemnly enunciated that the doctrine of evolution was not invented the day before yesterday? Has any one ever dreamed of claiming it as a modern innovation? Is there any one so ignorant of the history of philosophy as to be unaware that it is one of the forms in which speculation embodied itself long before the time either of the Bishop of Hippo or the Apostle to the Gentiles? Is Mr. Gladstone, of all people in the world, disposed to ignore the founders of Greek philosophy, to say nothing of Indian sages to whom evolution was a familiar notion ages before Paul of Tarsus was born? But it is ungrateful to cavil at even the most oblique admission of the possible value of one of those affirmations of natural science which really may be said to be "a demonstrated conclusion and established fact." I note it with pleasure, if only for the purpose of introducing the observation that if there is any truth whatever in the doctrine of evolution as applied to animals, Mr. Gladstone's gloss on Genesis in the following passage is hardly happy:

God created—

- (a) The water-population;
- (b) The air-population.

And they receive his benediction (verses 20-23).

Pursuing this regular progression from the lower to the higher, from the simple to the complex, the text now gives us the work of the sixth "day," which supplies the land population, air and water having been already supplied (pp. 695, 696).

The gloss to which I refer is the assumption that the "air-population" forms a term in the order of progression from lower to higher, from simple to complex—the place of which lies between the water-population below and the land-population above—and I speak of it as a "gloss" because the pentateuchal writer is nowise responsible for it.

But it is not true that the air-population, as a whole, is "lower" or less "complex" than the land-population. On the contrary, every beginner in the study of animal morphology is aware that the organization of a bat, of a bird, or of a pterodactyle, presupposes that of a terrestrial quadruped, and that it is intelligible only as an extreme modification of the organization of a terrestrial mammal or reptile. In the same way, winged insects (if they are to be counted among the "air-population") presuppose insects which were wingless, and therefore, as "creeping things," were part of the land-population. Thus theory is as much opposed as observation to the admission that natural science indorses the succession of animal life which Mr. Gladstone finds in Genesis. On the contrary, a good many representatives of natural science would be prepared to say, on theoretical grounds alone, that it is incredible that the "air-population" should have appeared before the "land-population," and that if this assertion is to be found

in Genesis, it merely demonstrates the scientific worthlessness of the story of which it forms a part.

Indeed, we may go further. It is not even admissible to say that the water-population, as a whole, appeared before the air and the land-populations. According to the authorized version, Genesis especially mentions among the animals created on the fifth day "great whales," in place of which the revised version reads "great sea monsters." Far be it from me to give an opinion which rendering is right, or whether either is right. All I desire to remark is, that if whales and porpoises, dugongs and manatees, are to be regarded as members of the water-population (and if they are not, what animals can claim the designation?), then that much of the water-population has as certainly originated later than the land-population as bats and birds have. For I am not aware that any competent judge would hesitate to admit that the organization of these animals shows the most obvious signs of their descent from terrestrial quadrupeds.

A similar criticism applies to Mr. Gladstone's assumption that, as the fourth act of that "orderly succession of times," enunciated in Genesis, "the land-population consummated in man."

If this means simply that man is the final term in the evolutionary series of which he forms a part, I do not suppose that any objection will be raised to that statement on the part of students of natural science. But if the pentateuchal author goes farther than this, and intends to say that which is ascribed to him by Mr. Gladstone, I think natural science will have to enter a *caveat*. It is not by any means certain that man—I mean the species *Homo sapiens* of zoological termi-

nology—has "consummated" the land-population in the sense of appearing at a later period of time than any other. Let me make my meaning clear by an example. From a morphological point of view, our beautiful and useful contemporary—I might call him colleague—the horse (*Equus caballus*), is the last term of the evolutionary series to which he belongs, just as *Homo sapiens* is the last term of the series of which he is a member. If I want to know whether the species *Equus caballus* made its appearance on the surface of the globe before or after *Homo sapiens*, deduction from known law does not help me. There is no reason that I know of why one should have appeared sooner or later than the other. If I turn to observation, I find abundant remains of *Equus caballus* in Quaternary strata, perhaps a little earlier. The existence of *Homo sapiens* in the Quaternary epoch is also certain. Evidence has been adduced in favor of man's existence in the Pliocene, or even in the Miocene epoch. It does not satisfy me; but I have no reason to doubt that the fact may be so, nevertheless. Indeed, I think it is quite possible that further research will show that *Homo sapiens* existed, not only before *Equus caballus*, but before many other of the existing forms of animal life; so that, if all the species of animals have been separately created, man, in this case, would by no means be the "consummation" of the land-population.

I am raising no objection to the position of the fourth term in Mr. Gladstone's "order"—on the facts, as they stand, it is quite open to anyone to hold, as a pious opinion, that the fabrication of man was the acme and final achievement of the process of peopling the globe. But it must not be said that

natural science counts this opinion among her "demonstrated conclusions and established facts," for there would be just as much, or as little, reason for ranging the contrary opinion among them.

It may seem superfluous to add to the evidence that Mr. Gladstone has been utterly misled in supposing that his interpretation of Genesis receives any support from natural science. But it is as well to do one's work thoroughly while one is about it; and I think it may be advisable to point out that the facts, as they are at present known, not only refute Mr. Gladstone's interpretation of Genesis in detail, but are opposed to the central idea on which it appears to be based.

There must be some position from which the reconcilers of science and Genesis will not retreat, some central idea the maintenance of which is vital and its refutation fatal. Even if they now allow that the words "the evening and the morning" have not the least reference to a natural day, but mean a period of any number of millions of years that may be necessary; even if they are driven to admit that the word "creation," which so many millions of pious Jews and Christians have held, and still hold, to mean a sudden act of the deity, signifies a process of gradual evolution of one species from another, extending through immeasurable time; even if they are willing to grant that the asserted coincidence of the order of nature with the "fourfold order" ascribed to Genesis is an obvious error instead of an established truth—they are surely prepared to make a last stand upon the conception which underlies the whole, and which constitutes the essence of Mr. Gladstone's "fourfold division, set forth in an orderly succession of times."

It is, that the animal species which compose the water-population, the air-population, and the land-population, respectively, originated during three distinct and successive periods of time, and only during those periods of time.

This statement appears to me to be the interpretation of Genesis which Mr. Gladstone supports, reduced to its simplest expression. "Period of time" is substituted for "day;" "originated" is substituted for "created;" and any order required for that adopted by Mr. Gladstone. It is necessary to make this proviso, for if "day" may mean a few million years, and "creation" may mean evolution, then it is obvious that the order (1) water-population, (2) air-population, (3) land-population, may also mean (1) water-population, (2) land-population, (3) air-population; and it would be unkind to bind down the reconcilers to this detail when one has parted with so many others to oblige them.

But even this sublimated essence of the pentateuchal doctrine (if it be such) remains as discordant with natural science as ever.

It is not true that the species composing any one of the three populations originated during any one of three successive periods of time, and not at any other of these.

Undoubtedly, it is in the highest degree probable that animal life appeared first under aquatic conditions; that terrestrial forms appeared later, and flying animals only after land animals; but it is, at the same time, testified by all the evidence we possess that the great majority, if not the whole, of the primordial species of each division have long since died out and have been replaced by a vast succession of new forms.

Hundreds of thousands of animal species, as distinct as those which now compose our water, land, and air populations, have come into existence and died out again, throughout the eons of geological time which separate us from the lower Paleozoic epoch, when, as I have pointed out, our present evidence of the existence of such distinct populations commences. If the species of animals have all been separately created, then it follows that hundreds of thousands of acts of creative energy have occurred at intervals throughout the whole time recorded by the fossiliferous rocks; and, during the greater part of that time, the "creation" of the members of the water, land, and air populations must have gone on contemporaneously.

If we represent the water, land, and air populations by *a*, *b*, and *c* respectively, and take vertical succession on the page to indicate order in time, then the following schemes will roughly shadow forth the contrast I have been endeavoring to explain:

Genesis (as interpreted
by Mr. Gladstone).

b b b
c c c
a a a

Nature (as interpreted
by natural science).

c¹ a³ b²
c a² b¹
b a¹ b
a a a

So far as I can see, there is only one resource left for those modern representatives of Sisyphus, the reconcilers of Genesis with science; and it has the advantage of being founded on a perfectly legitimate appeal to our ignorance. It has been seen that, on any interpretation of the terms "water-population" and "land-population," it must be admitted that invertebrate representatives of these populations existed during the lower Paleozoic epoch. No evolutionist can hesitate to admit that other land animals

(and possibly vertebrates among them) may have existed during that time, of the history of which we know so little; and, further, that scorpions are animals of such high organization that it is highly probable their existence indicates that of a long antecedent land-population of a similar character.

Then, since the land-population is said not to have been created until the sixth day, it necessarily follows that the evidence of the order in which animals appeared must be sought in the record of those older Paleozoic times in which only traces of the water-population have as yet been discovered.

Therefore, if anyone chooses to say that the creative work took place in the Cambrian or Laurentian epoch in exactly that manner which Mr. Gladstone does, and natural science does not, affirm, natural science is not in a position to disprove the accuracy of the statement. Only one cannot have one's cake and eat it too, and such safety from the contradiction of science means the forfeiture of her support.

Whether the account of the work of the first, second, and third days in Genesis would be confirmed by the demonstration of the truth of the nebular hypothesis; whether it is corroborated by what is known of the nature and probable relative antiquity of the heavenly bodies; whether, if the Hebrew word translated "firmament" in the Authorized Version really means "expanse," the assertion that the waters are partly under this "expanse" and partly above it would be any more confirmed by the ascertained facts of physical geography and meteorology than it was before; whether the creation of the whole vegetable world, and especially of "grass, herb

yielding seed after its kind, and tree bearing fruit," before any kind of animal is "affirmed" by the apparently plain teaching of botanical paleontology, that grasses and fruit-trees originated long subsequently to animals—all these are questions which, if I mistake not, would be answered decisively in the negative by those who are specially conversant with the sciences involved. And it must be recollected that the issue raised by Mr. Gladstone is not whether, by some effort of ingenuity, the pentateuchal story can be shown to be not disprovable by scientific knowledge, but whether it is supported thereby.

There is nothing, then, in the criticisms of Dr. Réville, but what rather tends to confirm than to impair the old-fashioned belief that there is a revelation in the book of Genesis.

The form into which Mr. Gladstone has thought fit to throw this opinion leaves me in doubt as to its substance. I do not understand how a hostile criticism can, under any circumstances, tend to confirm that which it attacks. If, however, Mr. Gladstone merely means to express his personal impression, "as one wholly destitute of that kind of knowledge which carries authority," that he has destroyed the value of these criticisms, I have neither the wish nor the right to disturb his faith. On the other hand, I may be permitted to state my own conviction that, so far as natural science is involved, M. Réville's observations retain the exact value they possessed before Mr. Gladstone attacked them.

Trusting that I have now said enough to secure the author of a wise and moderate disquisition upon a topic which seems fated to stir unwisdom and fanaticism to their depths, a fuller measure of justice than

has hitherto been accorded to him, I retire from my self-appointed championship, with the hope that I shall not hereafter be called upon by M. Réville to apologize for damage done to his strong case by imperfect or impulsive advocacy. But perhaps I may be permitted to add a word or two, on my own account, in reference to the great question of the relations between science and religion, since it is one about which I have thought a good deal ever since I have been able to think at all, and about which I have ventured to express my views publicly more than once in the course of the last thirty years.

The antagonism between science and religion, about which we hear so much, appears to me to be purely factitious, fabricated on the one hand by short-sighted religious people, who confound a certain branch of science, theology, with religion; and on the other by equally short-sighted scientific people who forget that science takes for its province only that which is susceptible of clear intellectual comprehension, and that outside the boundaries of that province they must be content with imagination, with hope, and with ignorance.

It seems to me that the moral and intellectual life of the civilized nations of Europe is the product of that interaction, sometimes in the way of antagonism, sometimes in that of profitable interchange of the Semitic and Aryan races, which commenced with the dawn of history, when Greek and Phœnician came in contact, and has been continued by Carthaginian and Roman, by Jew and gentile, down to the present day. Our art (except, perhaps, music) and our science are the contributions of the Aryan; but the essence of our religion is derived from the

Semite. In the eighth century B.C., in the heart of a world of idolatrous polytheists, the Hebrew prophets put forth a conception of religion which appears to me to be as wonderful an inspiration of genius as the art of Pheidias or the science of Aristotle.

"And what doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?"

If any so-called religion takes away from this great saying of Micah, I think it wantonly mutilates, while if it adds thereto, I think it obscures, the perfect ideal of religion.

But what extent of knowledge, what acuteness of scientific criticism, can touch this, if anyone possessed of knowledge or acuteness could be absurd enough to make the attempt? Will the progress of research prove that justice is worthless and mercy hateful? Will it ever soften the bitter contrast between our actions and our aspirations, or show us the bounds of the universe, and bid us say, "Go to, now we comprehend the infinite?"

A faculty of wrath lay in those ancient Israelites, and surely the prophet's staff would have made swift acquaintance with the head of the scholar who had asked Micah whether, peradventure, the Lord further required of him an implicit belief in the accuracy of the cosmogony of Genesis!

What we are usually pleased to call religion nowadays is, for the most part, Hellenized Judaism; and not unfrequently the Hellenic element carries with it a mighty remnant of old-world paganism and a great infusion of the worst and weakest products of Greek scientific speculation; while fragments of Persian and

Babylonian, or rather Accadian, mythology burden the Judaic contribution to the common stock.

The antagonism of science is not to religion, but to the heathen survivals and the bad philosophy under which religion herself is often well-nigh crushed. And, for my part, I trust that this antagonism will never cease, but that to the end of time true science will continue to fulfil one of her most beneficent functions, that of relieving men from the burden of false science which is imposed upon them in the name of religion.

This is the work that M. Réville and men such as he are doing for us; this is the work which his opponents are endeavoring, consciously or unconsciously, to hinder.

T. H. HUXLEY.

POSTSCRIPT TO SOLAR MYTHS.

A REPLY TO W. E. GLADSTONE.

BY F. MAX MÜLLER.

I find it difficult, and should consider it almost discourteous, to order the last revise of my article on "Solar Myths" for press without saying a few words in reply to Mr. Gladstone's essay on the "Dawn of Creation and of Worship," published in the November number of this *Review*. Mr. Gladstone's arguments, it is true, are chiefly directed against M. Réville's "Prolégomènes de l'Histoire des Religions," a work which I felt it an honor to introduce to the favorable notice of the English public by adding a small preface to the English translation. Nor should I have thought it incumbent upon myself, or respectful to so eminent a theologian as M. Réville has long proved himself to be both as an active clergyman and as the first professor of the science of religion at the Collège de France, to step in between him and Mr. Gladstone, while these two eloquent pleaders are discussing their own peculiar views on the origin of the Pentateuch or on the exact meaning of certain contested passages in the book of Genesis.

But when Mr. Gladstone proceeds to attack, with what seems to me in some passages parliamentary rather than academic eloquence, the fundamental principles of comparative mythology, and more particularly that theory which he calls *Solarism*, it might show discretion indeed, but hardly valor, were I to

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hide myself behind M. Réville, who has so boldly come forward as the champion of a theory the paternity of which I could not, and, if I could, I would not deny.

Solarism, however, is used by Mr. Gladstone in a sense very different from that in which I should use it. He applies it to a theory according to which *all* mythology has a solar origin, *all* gods are solar gods, *all* heroes solar heroes, *all* myths and legends but half-forgotten stories about the sun as the giver of light and life, or as the lord of days and months and seasons and years. Mine has been a much humbler task, and I have never attempted more than to prove that *certain* portions of ancient mythology have a directly solar origin. Nor have I ever done so except in cases where, either by etymological analysis or by a comparison of Greek and Roman with Vedic myths, I imagined I could make it clear that certain stories which seemed irrational or irreverent, when told of gods such as Jupiter or Apollo or Athene, became perfectly intelligible if accepted as they were told originally of the sky or the sun or the dawn. I have protested again and again against the theory that there is but one key to unlock all the secret drawers of ancient mythology. As little as the sun is the whole of nature is ancient mythology wholly solar. But as certainly as the sun, with all that is dependent on it, forms the most prominent, half natural, and half supernatural object in the thoughts of the ancient and even of the modern world, are solar myths a most important ingredient in the language, the traditions, and the religion of the whole human race. If in working out this theory my interpretation of passages in Homer or in the Veda has been wrong, if my ap-

plication of phonetic rules has ever been inaccurate, let it be proved. Nothing delights me more than when I am proved to have been wrong, for in that case I always carry away something that is worth having. If, for instance, Mr. Gladstone or any other Greek scholar could prove that in Greek short ϵ without the *spiritus asper* can ever become the long η with the *spiritus asper*, then I should confess that my protest against deriving the name of *Hera* from *era*, the earth, was futile, and I should as readily accept the original chthonic character of the wife of Zeus as I should accept Mr. Gladstone's identification of *breakfast* and *dinner*, provided always that he can produce one single case from the whole of the French language in which *dî* or *dis* (in *dîner* or *disner*) represents an original *déjeu* (in *déjeuner*). That there are chthonic elements in the character of *Hera* I readily allow; but that does not prove that one of her names might not have been the heavenly or the brilliant goddess, just as in Latin she is called *Juno*, the female counterpart of *Jupiter*, her heavenly consort. Earth as well as heaven, nay, every part of nature, is liable to mythological metamorphosis; and I have tried to show how many old sayings concerning heaven, earth, the sun, the moon, the stars, day and night, months, seasons and years, rivers and mountains, men and animals, the spirits of the departed, or even mere abstractions, such as honor or virtue, have been rolled up in time into that curious conglomerate of ancient thought which, for want of a better name, we call mythology.

This view I am prepared to defend with the same firm conviction with which I started it nearly forty years ago. Nor do I see that Mr. Gladstone's argu-

ments have shattered or even touched my old position. He maintains that in the Olympian mythology, such as we find it in the Homeric poems, the Greek gods are no longer mere representatives of physical phenomena, but genuine "theanthromorphic" conceptions. This is the very view which I have defended, though I confess I have sometimes wondered whether the ancient popular poets had really no suspicion whatever of the original character of their gods, while some of the earliest Greek philosophers were so fully conscious of it. But however that may be, the Homeric mythology, as well as the Homeric language, has surely its antecedents. Many of its anomalous legends and its irregular verbs did not even spring into existence on Greek soil, for they can be traced in India and even in Iceland, though certainly not, as Mr. Gladstone implies (page 11), in Egypt, still less in Palestine. It is with these antecedents, with the prehistoric of Aryan mythology, that comparative mythologists are chiefly concerned, and surely Mr. Gladstone would be the last scholar to be satisfied with merely superficial comparisons. There is a true radicalism in scholarship, too, which despises all measures which do not go to the roots of things. Mr. Gladstone warns us not to trust too much to etymology; he might as well warn the explorer of Oxford clay not to believe too much in that solid granite which each honest digger will find, if only he digs deep enough. Etymology represents the prehistoric period in human language and human thought, and the light which it has shed on later periods is certainly not less important than the lessons which geology and paleontology have added to the study of mankind. As in the beautiful Campo

Santo of Bologna we find, beneath the monuments erected by the loving care of living mourners, tombstones—discovered, one might fairly say, by the divining rod and disinterred by the indefatigable spade of Zannoni—which reveal to us the daily life and the daily struggles, the hopes and fears, of races, whom we call prehistoric, but who were once as truly historic as their conquerors and successors, whether Umbrian, Etruscan, or Roman—the vast Aryan cemetery of language and myth, too, as explored by many patient diggers, has surrendered tombstones which tell us of the thoughts, of the faith and hope, of those whose descendants we are, however difficult we find it to understand their language and to think their thoughts. Does Mr. Gladstone believe that words are ever without an etymology, or that myths are ever without reason? And, if not, does he think it is of no importance to know why Zeus was first called Zeus, or why Achilleus, like other Aryan heroes, was believed to be vulnerable in one point only? Mr. Gladstone seems afraid that prehistoric ideas might be transferred to historic times, and, speaking of the future, he writes: "Strange, indeed, will be the effect of such a system, if applied to our own case at some date in the far-off future; for it will be shown *inter alia*, that there were no priests, but only presbyters, in any portion of Western Christendom; that our dukes were simply generals leading us in war; that we broke our fast at eight in the evening (for *dîner* is but a compression of *déjeuner*); and even, possibly, that one of the noblest and most famous English houses pursued habitually the humble occupation of a pig-driver."

I do not anticipate any such anachronisms; as little

do I expect that future historians will mistake our lords for bread-givers (*hláf-ord*) or our parliamentary whips for pig-drivers. And yet every one of the words which Mr. Gladstone quotes, if but rightly interpreted, has some important lessons to teach those who will come after us.

It is well that they should know that originally priests were not different from laymen, and that they were well satisfied with the simple title of presbyters or elders, being elders not only in age, but in wisdom, self-denial, and in tolerance.

It is well that they should know, if it is so, that the ancestor of one of the noblest and most famous English houses was a pig-driver, if thus they may learn that there was a time when a noble career was open in England even to the humblest ranks.

It is well that they should know that dukes were not always mere possessors of large wealth which they had not earned themselves, but that originally they were in very deed leaders in battle, leaders in thought, and ready to court the place of danger, whether against battalions or against the tumult of vulgar error and prejudice. Mr. Gladstone need not be afraid that future historians will ever mistake him for a merely titular duke, though they will speak of him, as we do, as our leader, as a true *Duca e Maestro*, if not always against the tumult of vulgar error and prejudice, yet, without fail, whenever any wrongs had to be righted, effete privileges to be abolished, and lessons of wisdom and moderation, however distasteful, to be taught to the strong and the weak, to the rich and the poor.

F. MAX MÜLLER.

Florence, November 7, 1885.

PROEM TO GENESIS: A PLEA FOR A FAIR TRIAL.

A REPLY TO PROFESSORS HUXLEY AND MÜLLER.

BY W. E. GLADSTONE.

*Vous avez une manière si amiable d'annoncer les plus mauvaises nouvelles, qu'elles perdent par là de leurs désagrément.** So wrote, *de haut en bas*,† the Duchess of York to Beau Brummell, sixty or seventy years back (Life, by Jesse, i, 260); and so write I, *de bas en haut*,‡ to the two very eminent champions who have in the *Nineteenth Century* of December entered appearances on behalf of Dr. Réville's *Prolégomènes*, with a decisiveness of tone, at all events, which admits of no mistake—Professor Huxley and Professor Max Müller. My first duty is to acknowledge in both cases the abundant courtesy and indulgence with which I am personally treated. And my first thought is that, where even disagreement is made in a manner pleasant, it will be a duty to search and see if there be any points of agreement or approximation, which will be more pleasant still. This indulgence and courtesy deserves in the case of Professor Huxley a special warmth of acknowledgment, because, while thus more than liberal to the individual, he has for the class of Reconcilers, in which he places me, an unconcealed and unmeasured scorn. These are they who impose upon man a burden of

* You have so charming a manner of telling the worst news that it loses its disagreeableness.

† The high to the low.

‡ The low to the high.

false science *in the name of religion*, who dictate as a divine command "an implicit belief in the cosmogony of Genesis;" and who "stir unwisdom and fanaticism to their depths." Judgments so severe should surely be supported by citation or other evidence, for which I look in vain. To some they might suggest the idea that passion may sometimes unawares intrude even within the precincts of the temple of science. But I admit that a greater master of his art may well be provoked, when he finds his materials tumbled about by incapable hands, and may mistake for irreverence what is only want of skill.

While acknowledging the great courtesy with which Professor Huxley treats his antagonists individually, and while simply listening to his denunciations of the Reconcilers as one listens to distant thunders, with a sort of sense that after all they will do no great harm, I must presume to animadvert with considerable freedom upon his method; upon the sweeping character of his advocacy; upon his perceptible exaggeration of points in controversy; upon his mode of dealing with authorities; and upon the curious fallacy of substitution by which he enables himself to found the widest proscriptions of the claim of the book of Genesis to contain a divine record upon a reasoned impeachment of its scientific accuracy in, as I shall show, a single particular.

As to the first of these topics, nothing can be more equitable than Professor Huxley's intention to intervene as a "science proctor" in that part of the debate raised by M. Réville, "to which he proposes to restrict his observations." This is the part on which he proposes in his first page to report as a student—and every reader will inwardly add, as one

of the most eminent among all students—of natural science. Now this is not the cosmogonical part of the account in Genesis. On Genesis i, 1-19, containing the cosmogony, he does not report as an expert, but refers us to "those who are specially conversant with the sciences involved;" adding his opinion about their opinions. Yet in his second page, without making any reference to this broad distinction, he at once forgets the just limitation of his first, and our "proctor for science" pronounces on M. Réville's estimate, not of the fourfold succession in the stratification of the earth, but of "the account of the creation given in the book of Genesis," that its terms are as "respectful as in his judgment they are just." Thus the proctorship for science, justly assumed for matters within his province as a student, is rather hastily extended to matters which he himself declares to be beyond it. In truth it will appear that as there are many roads to heaven with one ending, so, provided only a man arrives at the conclusion that the great Proem of Genesis lends no support to the argument for revelation, it does not much matter how he gets there. For in this "just" account of the creation I have shown that M. Réville supports his accusation of scientific error by three particulars: that in the first he contradicts the judgment of scholars on the sense of the original; in the second he both misquotes (by inadvertence) the terms of the text, and overlooks the distinction made so palpable (if not earlier) half a century ago, by the work of Dr. Buckland (Bridgewater Treatise, vol. i, pp. 19-28), between *bara* and *asa*; while the third proceeds on the assumption that there could be no light to produce vegetation, except light derived from a visible sun. These

three charges constitute the head and front of M. Réville's indictment against the cosmogony; and the fatal flaws in them, without any notice or defense, are now all taken under the mantle of our science proctor, who returns to the charge at the close of his article, and again dismisses with comprehensive honor as "wise and moderate" what he had ushered in as reverent and just. So much for the sweeping, indiscriminating character of an advocacy which, in a scientific writer, we might perhaps have expected to be carefully limited and defined.

I take next the exaggeration which appears to me to mark unhappily Professor Huxley's *method*. Under this head I include all needless multiplication of points of controversy, whether in the form of overstating differences, or understating agreements, with an adversary.

As I have lived for more than half a century in an atmosphere of contention, my stock of controversial fire has perhaps become abnormally low; while Professor Huxley, who has been inhabiting the Elysian regions of science, the *edita doctrinâ sapiëntiâ templâ serena* (Lucr. ii, 8), may be enjoying all the freshness of an unjaded appetite. Certainly one of the lessons life has taught me is that where there is known to be a common object, the pursuit of truth, there should also be a studious desire to interpret the adversary in the best sense his words will fairly bear; to avoid whatever widens the breach; and to make the most of whatever tends to narrow it. These I hold to be part of the laws of knightly tournament.

I do not, therefore, fully understand why Professor Huxley makes it a matter of objection to me that, in rebuking a writer who had treated evolution whole-

sale as a novelty in the world, I cited a few old instances of moral and historical evolution only, and did not extend my front by examining English sages and the founders of Greek philosophy. Nor why, when I have spoken of physical evolution as of a thing to me most acceptable, but not yet in its rigor (to my knowledge) proved, we have only the rather niggardly acknowledgment that I have made "the most oblique admissions of a possible value." Thus it is when agreement is threatened, but far otherwise when differences are to be blazoned. When I have spoken of the succession of orders in the most general terms only, this is declared a sharply divided succession in which the last species of one cannot overlap the first species of another. When I have pleaded on simple grounds of reasoning for the supposition of a substantial correspondence between Genesis i and science, have waived all questions of a verbal inspiration, all question whether the whole of the statements can now be made good, I am treated as one of those who impose "in the name of religion" as a divine requisition "an implicit belief in the accuracy of the cosmogony of Genesis," and who deserve to have their heads broken in consequence.

I have urged nothing "in the name of religion." I have sought to adduce probable evidence that a guidance more than human lies within the great Proem of the book of Genesis, just as I might adduce probable evidence to show that Francis did or did not write Junius, that William the Third was or was not responsible for the massacre of Glencoe; I have expressly excepted detail, and have stated that in my inquiry "the authority of scripture cannot be alleged in proof of a primitive revelation." I object to all

these exaggerations of charge, as savoring of the spirit of the Inquisition, and as restraints on literary freedom.

My next observation as to the professor's method refers to his treatment of authorities.

In one passage (p. 46) Mr. Huxley expresses his regret that I have not named my authority for the statement made concerning the fourfold succession, in order that he might have transferred his attentions from myself to a new delinquent. Now, published works are (as I may show) a fair subject for reference. But as to pointing out any person who might have favored me with his views in private correspondence, I own that I should have some scruple in handing him over to be pilloried as a Reconciler, and to be pelted with charges of unwisdom and fanaticism, which I myself, from long use, am perfectly content to bear.

I did refer to three great and famous names: those of Cuvier, Sir John Herschel, and Whewell. Mr. Huxley speaks of me as having quoted them in support of my case on the fourfold succession; and at the same time notices that I admitted Cuvier not to be a recent authority, which in geology proper is, I believe, nearly equivalent to saying he is, for particulars, no authority at all. This recital is singularly inaccurate. I cited them, not with reference to the fourfold succession, but generally for "the general accordance of the Mosaic cosmogony with the results of modern inquiry," and particularly in connection with the nebular hypothesis. It is the cosmogony (Gen. i, 1-19), not the fourfold succession, which was the sole object of Réville's attack, and the main object of my defense, and which is the largest portion of the whole subject. Will Mr. Huxley vent-

ure to say that Cuvier is an unavailable authority, or that Herschel and Whewell are other than great and venerable names, with reference to the cosmogony? Yet he has quietly set them aside without notice; and they with many more are inclusively bespattered with the charges which he has launched against the pestilent tribe of Reconcilers.

My fourth and last observation on the "method" of Professor Huxley is that, after discussing a part, and that not the most considerable part, of the Proem of Genesis, he has broadly pronounced upon the whole. This is a mode of reasoning which logic rejects, and which I presume to savor more of license than of science. The fourfold succession is condemned with argument; the cosmogony is thrown into the bargain. True, Mr. Huxley refers in a single sentence to three detached points of it partially touched in my observations (p. 50). But all my argument, the chief argument of my paper, leads up to the nebular or rotary hypothesis. This hypothesis, with the authorities cited—of whom one is the author of "Vestiges of Creation"—is inclusively condemned, and without a word vouchsafed to it.

I shall presently express my gratitude for the scientific part of Mr. Huxley's paper. But there are two sides to the question. The whole matter at issue is: 1. A comparison between the probable meaning of the Proem to Genesis and the results of cosmological and geological science; 2. The question whether this comparison favors or does not favor the belief that an element of divine knowledge—knowledge which was not accessible to the simple action of the human faculties—is conveyed to us in this Proem. It is not enough to be accurate in one term of a comparison,

unless we are accurate in both. A master of English may speak the vilest and most blundering French. I do not think Mr. Huxley has ever endeavored to understand what is the idea, what is the intention, which his opponent ascribes to the Mosaic writer, or what is the conception which his opponent forms of the weighty word Revelation. He holds the writer responsible for scientific precision; I look for nothing of the kind, but assign to him a statement general, which admits exceptions; popular, which aims mainly at producing moral impressions; summary, which can not but be open to more or less of criticism in detail. He thinks it is a lecture. I think it is a sermon. He describes living creatures by structure. The Mosaic writer describes them by *habitat*. Both I suppose are right. I suppose that description by *habitat* would be unavailing for the purposes of science. I feel sure that description by structure, such as the geologists supply, would have been unavailing for the purpose of summary teaching with religious aim. Of Revelation I will speak by and by.

In order to institute with profit the comparison now in view, the very first thing necessary is to determine, so far as the subject-matter allows, what it was that the Pentateuchal or Mosaic writer designed to convey to the minds of those for whom he wrote. The case is, in more ways than one, I conceive, the direct reverse of that which the professor has alleged. It is not bringing Science to be tried at the bar of Religion. It is bringing Religion, so far as it is represented by this part of the holy scriptures, to be tried at the bar of Science. The indictment against the Pentateuchal writer is, that he has written what is scientifically untrue. We have to find then in the

first place what it is that he has written, according to the text, not an inerrable text, as it now stands before us.

First, I assume there is no dispute that in Genesis i, 20-27, he has represented a fourfold sequence or succession of living organisms. Aware of my own inability to define in any tolerable manner the classes of these organisms, I resorted to the general phrases water-population, air-population, land-population. The immediate purpose of these phrases was not to correspond with the classifications of Science, but to bring together in brief and convenient form the larger and more varied modes of expression used in verses 20, 21, 24, 25, of the chapter.

I think, however, I have been to blame for having brought into a contact with science, which was not sufficiently defined, terms that have no scientific meaning: water-population, air-population, and (two-fold) land-population. I shall now discard them and shall substitute others, which have the double advantage of being used by geologists, and perhaps of expressing better than my phrases what was in the mind of the Mosaic writer. These are the words: 1, fishes; 2, birds; 3, mammals; * 4, man. By all, I think, it will be felt that the first object is to know what the Pentateuchal writer means. The relation of his meaning to science is essential, but, in orderly argumentation, subsequent. The matter now before us is a matter of reasonable and probable interpretation. What is the proper key to this hermeneutic work? In my opinion it is to be found in a just esti-

*I wish to be understood as speaking here of the higher or ordinary mammals, which alone I assume to have been probably known to the Mosaic writer.

mate of the purpose with which the author wrote, and with which the book of Genesis was, in this part of it, either composed or compiled.

If this be the true point of departure, it opens up a question of extreme interest, at which I have but faintly glanced in my paper, and which is nowhere touched in the reply to me. What proper place has such a composition as the first chapter of Genesis in such a work as the scriptures of the Old Testament? They are indisputably written with a religious aim; and their sub-matter is religious. We may describe this aim in various ways. For the present purpose, suffice it to say they are conversant with belief in God, with inculcation of duties founded on that belief, with history and prophecy obviously having it for their central point. But this chapter, at the least down to verse 25, and perhaps throughout, stands on a different ground. In concise and rapid outline, it traverses a vast region of physics. It is easy to understand St. Paul when he speaks of the world as bearing witness to God (Acts xiv, 17; Romans i, 20). What he said was capable of being verified or tested by the common experimental knowledge of all who heard him. Of it, of our savior's mention of the lilies—and may it not be said generally of the references in scripture to natural knowledge?—they are at once accounted for by the positions in which they stand. But this first chapter of Genesis professes to set out in its own way a large and comprehensive scheme of physical facts: the transition from chaos to kosmos, from the inanimate to life, from life in its lower orders to man. Being knowledge of an order anterior to the creation of Adamic man, it was beyond verification, as being

beyond experience. As a physical exposition in miniature, it stands alone in the sacred record. And, as this singular composition is solitary in the Bible, so it seems to be hardly less solitary in the sacred books of the world. "The only important resemblance of any ancient cosmogony with the scriptural account, is to be found in the Persian or Zoroastrian;" this Bishop Browne (Note on Gen. i, 5) proceeds to account for on the following among other grounds: that Zoroaster was probably brought into contact with the Hebrews, and even perhaps with the prophet Daniel; a supposition which supplies the groundwork of a recent and remarkable romance, not proceeding from a Christian school ("Zoroaster," by F. M. Crawford. Macmillan, 1885). Again, the Proem does not carry any Egyptian marks. In the twenty-seven thousand lines of Homer, archaic as they are and ever turning to the past, there is, I think, only one (Il. vii, 99) which belongs to physiology. The beautiful sketch of a cosmogony by Ovid (Ovid, Metam. i, 1-38) seems in considerable degree to follow the Mosaic outline; but it was composed at a time when the treasure of the Hebrew records had been for two centuries imparted, through the Septuagint, to the Aryan nations.

Professor Huxley, if I understand him rightly, considers the Mosaic writer, not perhaps as having intended to embrace the whole truth of science in the province of geology, but at least as liable to be convicted of scientific worthlessness if his language will not stand the test of this construction. Thus the "water-population" is to include "the innumerable hosts of marine invertebrated animals." It seems to me that these discoveries, taken as a whole and also

taken in all their parts and particulars, do not afford a proper, I mean a rational, standard for the interpretation of the Mosaic writer; that the recent discovery of the Silurian scorpion, a highly organized animal, is of little moment either way to the question now before us;* that it is not an account of the extinct species which we should consider the Mosaic writer as intending to convey; that while his words are capable of covering them, as the *oikoumenè* of the New Testament cover the red and yellow man, the rules of rational construction recommend and require our assigning to them a more limited meaning, which I will presently describe.

Another material point in Professor Huxley's interpretation appears to me to lie altogether beyond the natural force of the words, and to be of an arbitrary character. He includes in it the proposition that the production of the respective orders was affected during each of "three distinct and successive periods of time; and only during those periods of time;" or again, in one of these, "and not at any other of these;" as, in a series of games at chess, one is done before another begins; or as in a "march-past," one regiment goes before another comes. No doubt there may be a degree of literalism which will even suffice to show that, as "as every winged fowl" was produced on the fourth day of the Hexaemeron, therefore the birth of new fowls continually is a contradiction to the text of Genesis. But does not the equity of common sense require us to understand simply that the order

*Because my argument in no way requires universal accordance, what bearing the scorpion may have on any current scientific hypothesis, it is not for me to say.

of "winged fowl," whatever that may mean, took its place in creation at a certain time, and that from that time its various component classes were in course of production? Is it not the fact that in synoptical statements of successive events, distributed in time, for the sake of producing easy and clear impressions, general truth is aimed at, and periods are allowed to overlap? If, with such a view, we arrange the schools of Greek philosophy in numerical order, according to the dates of their inception, we do not mean that one expired before another was founded. If the archæologist describes to us as successive in time the ages of stone, bronze, and iron,* he certainly does not mean that no kinds of stone implement were invented after bronze began, or no kinds of bronze after iron began. When Thucydides said that the ancient limited monarchies were succeeded by tyrannies, he did not mean that all the monarchs died at once, and a set of tyrants, like Deucalion's men, rose up and took their places. Woe be, I should say, to anyone who tries summarily to present in series the phases of ancient facts, if they are to be judged under the rule of Professor Huxley.

Proceeding, on what I hold to be open ground, to state my own idea of the true key to the meaning of the Mosaic record, I suggest that it was intended to give moral, and not scientific, instruction to those for

*I use this enumeration to illustrate an argument, but I must, even in so using it, enter a caveat against its particulars. I do not conceive it to be either probable or historical that, as a general rule, mankind passed from the use of stone implements to the use of bronze, a composite metal, without passing through some intermediate (longer or shorter) period of copper.

whom it was written. That for the Adamic race, recent on the earth, and young in faculties, the traditions here incorporated, which were probably far older than the book, had a natural and a highly moral purpose in conveying to their minds a lively sense of the wise and loving care with which the almighty father, who demanded much at their hands, had beforehand given them much, in the provident adaptation of the world to be their dwelling-place, and of the created orders of their use and rule. It appears to me that, given the very nature of the scriptures, this is clearly the rational point of view. If it is so, then it follows that just as the tradition described earth, air, and heaven in the manner in which they superficially presented themselves to the daily experiences of man—not scientifically, but

The common air, the sun, the skies—

so he spoke of fishes, of birds, of beasts, of what man was most concerned with; and, last in the series, of man himself, largely and generally, as facts of his experience; from which great moral lessons of wonder, gratitude, and obedience were to be deduced, to aid him in the great work of his life training.

If further proof be wanting, that what the Mosaic writer had in his mind were the creatures with which Adamic man was conversant, we have it in the direct form of verse 28, which gives to man for meat the fruit of every seed-yielding tree, and every seed-yielding herb, and the dominion of every beast, fowl, and reptile living. There is here a marked absence of reference to any but the then living species.

This, then, is the key to the meaning of the book, and of the tradition, if, as I suppose, it was before

of "winged fowl," whatever that may mean, took its place in creation at a certain time, and that from that time its various component classes were in course of production? Is it not the fact that in synoptical statements of successive events, distributed in time, for the sake of producing easy and clear impressions, general truth is aimed at, and periods are allowed to overlap? If, with such a view, we arrange the schools of Greek philosophy in numerical order, according to the dates of their inception, we do not mean that one expired before another was founded. If the archæologist describes to us as successive in time the ages of stone, bronze, and iron,* he certainly does not mean that no kinds of stone implement were invented after bronze began, or no kinds of bronze after iron began. When Thucydides said that the ancient limited monarchies were succeeded by tyrannies, he did not mean that all the monarchs died at once, and a set of tyrants, like Deucalion's men, rose up and took their places. Woe be, I should say, to anyone who tries summarily to present in series the phases of ancient facts, if they are to be judged under the rule of Professor Huxley.

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the book, which seems to me to offer the most probable, and therefore the rational, guide to its interpretation. The question we shall have to face is whether this statement so understood, this majestic and touching lesson of the childhood of Adamic man, stands in such a relation to scientific truth, as far as it is now known, as to give warrant to the inference that the guidance under which it was composed was more than that of faculties merely human, at that stage of development, and likewise of information, which belonged to the childhood of humanity.

We have, then, before us one term of the desired comparison. Let us now turn to the other.

And here my first duty is to render my grateful thanks to Professor Huxley for having corrected my either erroneous or superannuated assumption as to the state of scientific opinion on the second and third terms of the fourfold succession of life. As one probable doctor sufficed to make an opinion probable, so the dissent of this eminent man would of itself overthrow and pulverize my proposition that there was a scientific *consensus* as to a sequence like that of Genesis in the production of animal life, as between fishes, birds, mammals, and man. I shall compare the text of Genesis with geological statements; but shall make no attempt, unless this be an attempt, to profit by a *consensus* of geologists.

I suppose it to be admitted on all hands that no perfectly comprehensive and complete correspondence can be established between the terms of the Mosaic text and modern discovery. No one, for instance, could conclude from it that which appears to be generally recognized, that a great reptile-age would be revealed by the mesozoic rocks.

Yet I think readers who have been swept away by the torrent of Mr. Huxley's denunciations will feel some surprise when on drawing summarily into line the main allegations, and especially this ruling order of the Proem, they see how small a part of them is brought into question by Mr. Huxley, and to how large an extent they are favored by the tendencies, presumptions, and even conclusions of scientific inquiry.

First, as to the cosmogony, or the formation of the earth and the heavenly bodies—

1. The first operation recorded in Genesis appears to be the formation of light. It is detached, apparently, from the waste or formless elemental mass (verses 2-5), which is left relatively dark by its withdrawal.

2. Next we hear of the existence of vapor, and of its condensation into water on the surface of the earth (verses 6-10). Vegetation subsequently begins: but this belongs rather to geology than to cosmogony (verses 11, 12).

3. In a new period, the heavenly bodies are declared to be fully formed and visible, dividing the day from night (verses 14-18).

Under the guidance particularly of Dr. Whewell, I have referred to the nebular hypothesis as confirmatory of this account.

Mr. Huxley has not either denied the hypothesis, or argued against it. But I turn to Phillips's "Manual of Geology," edited and adapted by Mr. Seeley and Mr. Etheridge (1885). It has a section in vol. i (pp. 15-19) on "Modern Speculations Concerning the Origin of the Earth."

The first agent here noticed as contributing to the

work of production is the "gas hydrogen in a burning state," which now forms the enveloping portion of the sun's atmosphere; whence we are told the inference arises that the earth also was once "incandescent at its surface," and that its rocks may have been "products of combustion." Is not this representation of light with heat for its ally, as the first element in this speculation, remarkably accordant with the opening of the Proem to Genesis?

Next it appears that "the product of this combustion is vapor," which with diminished heat condenses into water, and eventually accumulates "in depressions on the sun's surface so as to form oceans and seas." "It is at least probable that the earth has passed through a phase of this kind." "The other planets are apparently more or less like the earth in possessing atmospheres and seas." Is there not here a remarkable concurrence with the second great act of the cosmogony?

Plainly as I suppose it is agreeable to these suppositions that, as vapor gradually passes into water, and the atmosphere is cleared, the full adaptation of sun and moon by visibility for their functions should come in due sequence, as it comes in Gen. i, 14-18.

Pursuing its subject, the "Manual" proceeds (p. 17): "This consideration leads up to what has been called the nebular hypothesis," which "supposes that, before the stars existed, the materials of which they consist were diffused in the heavens in a state of vapor." The text then proceeds to describe how local-centers of condensation might throw off rings, these rings break into planets, and the planets, under conditions of sufficient force, repeat the process, and

thus produce satellites like those of Saturn, or like the moon.

I therefore think that, so far as cosmogony is concerned, the effect of Mr. Huxley's paper is not by any means to leave it as it was, but to leave it materially fortified by the "Manual of Geology," which I understand to be a standard of authority at the present time.

Turning now to the region of that science, I understand the main statements of Genesis, in successive order of time, but without any measurement of its divisions, to be as follows:

1. A period of land, anterior to all life (verses 9, 10).
2. A period of vegetable life, anterior to animal life (verses 11, 12.)
3. A period of animal life, in the order of fishes (verse 20).
4. Another stage of animal life, in the order of birds.
5. Another, in the order of beasts (24, 25).
6. Last of all, man (verses 26, 27).

Here is a chain of six links, attached to a previous chain of three. And I think it not a little remarkable that of this entire succession, the only step directly challenged is that of numbers four and five, which Mr. Huxley is inclined rather to reverse. He admits distinctly the seniority of fishes. How came that seniority to be set down here? He admits as probable upon present knowledge, in the person of *Homo sapiens*, the juniority of man. How came this juniority to be set down here? He proceeds indeed to describe an opposite opinion concerning man as holding exactly the same rank as the one to which he had

given an apparent sanction. As I do not precisely understand the bearing of the terms he uses, I pass them by, and I shall take the liberty of referring presently to the latest authorities, which he has himself suggested that I should consult. But I add to the questions I have just put this other inquiry: How came the Mosaic writer to place the fishes and the men in their true relative positions not only to one another, and not only to the rest of the animal succession, but in a definite and that a true relation of time to the origin of the first plant-life, and to the colossal operations by which the earth was fitted for them all? Mr. Huxley knows very well that it would be in the highest degree irrational to ascribe this correct distribution to the doctrine of chances; nor will the stone of Sisyphus of itself constitute a sufficient answer to inquiries which are founded, not upon a fanciful attempt to equate every word of the Proem with every *dictum* of science, but upon those principles of probable reasoning by which all rational lives are and must be guided.

I find the latest published authority on geology in the second or Mr. Etheridge's volume of the "Manual" of Professor Phillips, and by this I will now proceed to test the sixfold series which I have ventured upon presenting.

First, however, looking back for a moment to a work, obviously of the highest authority (Paleontology, by Richard Owen (now Sir Richard Owen, K.C.B.) Second edition, p. 5, 1861), on the geology of its day, I find in it a table of the order of appearance of animal life upon the earth, which, beginning with the oldest, gives us—

- | | |
|-------------------|-------------|
| 1. Invertebrates, | 4. Birds, |
| 2. Fishes, | 5. Mammals, |
| 3. Reptiles, | 6. Man. |

I omit all reference to specifications, and speak only of the principal lines of division.

In the Phillips-Etheridge "Manual," beginning as before with the oldest, I find the following arrangement, given partly by statement, and partly by diagram.

1. "The Azoic or Archæan time of Dana;" called Pre-Cambrian by other physicists (pp. 3, 5).

2. A commencement of plant life indicated by Dana as anterior to invertebrate animal life; long anterior to the vertebrate forms, which alone are mentioned in Genesis (pp. 4, 5).

3. Three periods of invertebrate life.

4. Age of fishes.

5. Age of reptiles.

6. Age of mammals, much less remote.

7. Age of man, much less remote than mammals.

As to birds, though they have not a distinct and separate age assigned them, the "Manual" (vol. i, ch. xxv, pp. 511-20) supplies us very clearly with their place in "the succession of animal life." We are here furnished with the following series, after the fishes. 1. Fossil reptiles (p. 512); 2. Ornithosauria (p. 517); they were "flying animals, which combined the characters of reptiles with those of birds;" 3. The first birds of the secondary rocks with "feathers in all respects similar to those of existing birds" (p. 518); 4. Mammals (p. 520).

I have been permitted to see in proof another statement from an authority still more recent, Professor Prestwich, which is now passing through

the press. In it (pp. 80, 81) I find the following seniority assigned to the orders which I here name:

- | | |
|---------------------------|-------------|
| 1. Plants (cryptogamous), | 4. Mammals, |
| 2. Fishes, | 5. Man. |
| 3. Birds, | |

It will now, I hope, be observed that, according to the probable intention of the Mosaic writer, these five orders enumerated by him correspond with the state of geological knowledge presented to us by the most recent authorities in this sense; that the origins of these orders respectively have the same succession as is assigned in Genesis to those representatives of the orders, which alone were probably known to the experience of Adamic man. My fourfold succession thus grows into a fivefold one. By placing before the first plant-life the azoic period, it becomes sixfold. And again, by placing before this the principal stages of the cosmogony, it becomes, according as they are stated, nine or ten fold; every portion holding the place most agreeable to modern hypothesis and modern science respectively.

I now notice the points in which, so far as I understand, the text of the Proem, as it stands, is either incomplete or at variance with the representations of science.

1. It does not notice the great periods of invertebrate life standing between (1) and (2) of my last enumeration.

2. It also passes by the great age of reptiles, with their antecessors, the *Amphibia*, which come between (2) and (3). The secondary or Mesozoic period, says the "Manual" (i, 511), "has often been termed the age of reptiles."

3. It mentions plants in terms which, I understand

from Professor Huxley and otherwise, correspond with the later, not the earlier, forms of plant life.

4. It mentions reptiles in the same category with its mammals.

Now, as regards the first two heads, these omissions, enormous with reference to the scientific record, are completely in harmony with the probable aim of the Mosaic writer, as embracing only the formation of the objects and creatures with which early man was conversant. The introduction of these orders, invisible and unknown, would have been not agreeable, but injurious, to his purpose.

As respects the third, it will strike the reader of the Proem that plant life (verses 11, 12) is mentioned with a particularity which is not found in the accounts of the living orders; nor in the second notice of the creation, which appears, indeed, pretty distinctly to refer to recent plant-life (Gen. ii, 5, 8, 9). Questions have been raised as to the translation of these passages, which I am not able to solve. But I bear in mind the difficulties which attend both oral traditions and the conversation of ancient MS., and I am not in any way troubled by the discrepancy before us, if it be a discrepancy, as it is the general structure and effect of the Mosaic statement on which I take my stand.

With regard to reptiles, while I should also hold by my last remark, the case is different. They appear to be mentioned as contemporary with mammals, whereas they are of prior origin. But the relative significance of the several orders evidently affected the method of the Mosaic writer. Agreeably to this idea, insects are not named at all. So reptiles are a family fallen from greatness; instead of stamping on

a great period of life its leading character, they merely skulked upon the earth. They are introduced, as will appear better from the LXX than from the A.V. or R.V., as a sort of appendage to mammals. Lying outside both the use and the dominion of man, and far less within his probable notice, they are not wholly omitted like insects, but treated apparently in a loose manner as not one of the main features of the pictures which the writer meant to draw. In the Song of the Three Children, where the four principal orders are recited after the series in Genesis, reptiles are dropped altogether, which suggests either that the present text is unsound, or, perhaps, more probably, that they were deemed a secondary and insignificant part of it. But, however this case may be regarded, of course I cannot draw from it any support to my general contention.

I distinguish; then, in the broadest manner, between Professor Huxley's exposition of certain facts of science, and his treatment of the book of Genesis. I accept the first, with the reference due to a great teacher from the meanest of his hearers, as a needed correction to myself, and a valuable instruction for the world. But, subject to that correction, I adhere to my proposition respecting the fourfold succession in the Proem; which further I extend to a fivefold succession respecting life, and to the great stages of the cosmogony to boot. The five origins, or first appearances of plants, fishes, birds, mammals, and man, are given to us in Genesis in the order of succession in which they are also given by the latest geological authorities.

It is, therefore, by attaching to words a sense they were never meant to bear, and by this only, that Mr.

Huxley establishes the parallels (so to speak) from which he works his heavy artillery. Land-population is a phrase meant by me to describe the idea of the Mosaic writer, which I conceive to be that of the animals familiarly known to early man. But, by treating this as a scientific phrase, it is made to include extinct reptiles, which I understand Mr. Huxley to treat as being land-animals; as, by taking birds of a very high formation, it may be held that mammal forms existed before such birds were produced. These are artificial contradictions, set up by altering in its essence one of the two things which it is sought to compare.

If I am asked whether I contend for the absolute accordance of the Mosaic writer, as interpreted by me, with the facts and presumptions of science, as I have endeavored to extract them from the best authorities, I answer that I have not endeavored to show either that any accordance has been demonstrated, or that more than a substantial accordance—an accordance in principal relevant particulars—is to be accepted as shown by probable evidence.

In the cosmogony of the Proem, which stands on a distinct footing as lying wholly beyond the experience of primitive man, I am not aware that any serious flaw is alleged; but the nebular hypothesis with which it is compared appears to be, perhaps from the necessity of the case, no more than a theory; a theory, however, long discussed, much favored, and widely accepted in the scientific world.

In the geological part, we are liable to those modifications or displacements of testimony which the future progress of the science may produce. In this view its testimony does not in strictness pass, I sup-

pose, out of the category of probable into that of demonstrative evidence. Yet it can hardly be supposed that careful researches, and reasonings strictly adjusted to method, both continued through some generations, have not in a large measure produced what has the character of real knowledge. With that real knowledge the reader will now have seen how far I claim for the Proem of Genesis, fairly tried, to be in real and most striking accordance.

And this brings me to the point at which I have to observe that Mr. Huxley, I think, has not mastered, and probably has not tried to master, the idea of his opponent as to what it is that is essentially embraced in the idea of a divine revelation to man.

So far as I am aware, there is no definition, properly so called, of revelation either contained in scripture or established by the general and permanent consent of Christians. In a word polemically used, of indeterminate or variable sense, Professor Huxley has no title to impute to his opponent, without inquiry, anything more than it must of necessity convey.

But he seems to assume that revelation is to be conceived of as if it were a lawyer's parchment, or a sum in arithmetic, wherein a flaw discovered at a particular point is *ipso facto* fatal to the whole. Very little reflection would show Professor Huxley that there may be those who find evidences of the communication of divine knowledge in the Proem to Genesis as they read it in their Bibles, without approaching to any such conception. There is the uncertainty of translation; translators are not inspired. There is the difficulty of transcription; transcribers are not inspired, and an element of error is inseparable from the work of a series of copyists.

How this works in the long courses of time we see in the varying texts of the Old Testament, with rival claims not easy to adjust. Thus the authors of the recent Revision (Preface to the Old Testament, p. vi) have had to choose in the Massoretic text itself between different readings, and "in exceptional cases" have given a preference to the ancient versions. Thus, upon practical grounds quite apart from the higher questions concerning the original composition, we seem at once to find a human element in the sacred text. That there is a further and larger question, not shut out from the view even of the most convinced and sincere believers, Mr. Huxley may perceive by reading, for example, Coleridge's "Confessions of an Inquiring Spirit." The question whether this Proem bears witness to a divine communication, to a working beyond that of merely human faculties in the composition of the scriptures, is essentially one for the disciples of Bishop Butler; a question, not of demonstrative, but of probable, evidence. I am not prepared to abandon, but rather to defend, the following proposition: It is perfectly conceivable that a document penned by the human hand, and transmitted by human means, may contain matter questionable, uncertain, or even mistaken, and yet may by its contents as a whole present such *πίστεις*, such moral proofs of truth divinely imparted, as ought irrefragably *pro tanto* to command assent and govern practice. A man may possibly admit something not reconciled, and yet may be what Mr. Huxley denounces as a Reconciler.

I do not suppose it would be feasible, even for Professor Huxley, taking the nebular hypothesis and geological discovery for his guides, to give, in the

compass of the first twenty-seven verses of Genesis, an account of the cosmogony, and of the succession of life in the stratification of the earth, which would combine scientific precision of statement with the majesty, the simplicity, the intelligibility, and the impressiveness of the record before us. Let us modestly call it, for argument's sake, an approximation to the present presumptions and conclusions of science. Let me assume that the statement in the text as to plants, and the statement of verses 24, 25 as to reptiles, cannot in all points be sustained; and yet still there remain great unshaken facts to be weighed. First, the fact that such a record should have been made at all. Secondly, the fact that, instead of dwelling in generalities, it has placed itself under the severe conditions of a chronological order, reaching from the first *nisus* of chaotic matter to the consummated production of a fair and goodly, a furnished and a peopled, world. Thirdly, the fact that its cosmogony seems, in the light of the nineteenth century, to draw more and more of countenance from the best natural philosophy; and fourthly, that it has described the successive origins of the five great categories of present life, with which human experience was and is conversant, in that order which geological authority confirms. How came these things to be? How came they to be, not among Accadians, or Assyrians, or Egyptians, who monopolized the stores of human knowledge when this wonderful tradition was born; but among the obscure records of a people who, dwelling in Palestine for twelve hundred years from their sojourn in the valley of the Nile, hardly had force to stamp even so much as their name upon the history of the world at large, and only then began

to be admitted to the general communion of mankind when their scriptures assumed the dress which a gentile tongue was needed to supply? It is more rational, I contend, to say that these astonishing anticipations were a God-given supply, than to suppose that a race, who fell uniformly and entirely short of the great intellectual development* of antiquity, should here not only have equaled and outstripped it, but have entirely transcended, in kind even more than in degree, all known exercise of human faculties.

Whether this was knowledge conveyed to the mind of the Mosaic author, I do not presume to determine. There has been, in the belief of Christians, a profound providential purpose, little or variously visible to us, which presided from Genesis to the Apocalypse, over the formation of the marvelous compound which we term the Holy Scriptures. This we wonderingly embrace without being much perplexed by the questions which are raised on them; for instance, by the question, in what exact relation the books of the Apocrypha, sometimes termed deuterocanonical, stand to the books of the Hebrew Canon. Difficulties of detail, such as may (or ultimately may not) be found to exist in the Proem to Genesis, have much the same relation to the evidence of revealed knowledge in this record as the spots in the sun to his all-unfolding and sufficing light. But as to the Mosaic writer himself, all I presume to accept is the fact that he put

*I write thus bearing fully in mind the unsurpassed sublimity of much that is to be found in the Old Testament. The consideration of this subject would open a wholly new line of argument, which the present article does not allow me to attempt.

upon undying record, in this portion of his work, a series of particulars which, interpreted in the growing light of modern knowledge, require from us, on the whole, as reasonable men, the admission that we do not see how he could have written them, and that in all likelihood he did not write them, without aid from the guidance of a more than human power. It is in this guidance, and not necessarily or uniformly in the consciousness of the writer, that, according to my poor conception, the idea of revelation mainly lies.

And now one word on the subject of evolution. I cannot follow Mr. Huxley in his minute acquaintance with Indian sages, and I am not aware that evolution has a place in the greater number of the schools of Greek philosophy. Nor can I comprehend the rapidity with which persons of authority have come to treat the Darwinian hypothesis as having reached the final stage of demonstration. To the eye of a looker-on their pace and method seem rather too much like a steeplechase. But this may very well be due to their want of appropriate knowledge and habits of thought. For myself, in my loose and uninformed way of looking at evolution, I feel only too much biased in its favor by what I conceive to be its relation to the great argument of design.*

Not that I share the horror with which some men of science appear to contemplate a multitude of what they term "sudden" acts of creation. All things

*"Views like these, when formulated by religious instead of scientific thought, make more of divine providence and fore-ordination than of divine intervention; but perhaps they are not the less theistical on that account." From the very remarkable lectures of Professor Asa Gray on "Natural Science and Religion," p. 77. Scribner, New York, 1880.

considered, a singular expression: but one, I suppose, meaning the act which produces, in the region of nature, something not related by an unbroken succession of measured and equable stages to what has gone before it. But what has equality or brevity of stage to do with the question how far the act is creative? I fail to see, or indeed am somewhat disposed to deny, that the short stage is less creative than the long, the single than the manifold, the equable than the jointed or graduated stage. Evolution is, to me, series with development. And like series in mathematics, whether arithmetical or geometrical, it establishes in things an unbroken progression; it places each thing (if only it stand the test of ability to live) in a distinct relation to every other thing, and makes each a witness to all that have preceded it, a prophecy of all that are to follow it. It gives to the argument of design, now called teleological argument, at once a wider expansion, and an augmented tenacity and solidity of tissue. But I must proceed.

I find Mr. Huxley asserting that the things of science, with which he is so splendidly conversant, are "susceptible of clear intellectual comprehension." Is this rhetoric, or is it a formula of philosophy? If the latter, will it bear examination? He preëminently understands the relations between those things which Nature offers to his view; but does he understand each thing in itself, or *how* the last term but one in an evolution series passes into and becomes the last? The seed may produce the tree, the tree the branch, the branch the twig, the twig the leaf or flower; but can we understand the slightest mutation or growth of Nature in itself? Can we tell *how* the twig passes

into leaf or flower, one jot more than if the flower or leaf, instead of coming from the twig, came directly from the tree or from the seed?

I cannot but trace some signs of haste in Professor Huxley's assertion that, outside the province of science, we have only imagination, hope, and ignorance. Not, as we shall presently see, that he is one of those who rob mankind of the best and highest of their inheritance, by denying the reality of all but material objects. But the statement is surely open to objection, as omitting, or seeming to omit, from view the vast fields of knowledge only probable, which are not of mere hope, nor of mere imagination, nor of mere ignorance; which include alike the inward and the outward life of man; within which lie the real instruments of his training, and where he is to learn how to think, to act, to be.

I will now proceed to notice briefly the last page of Professor Huxley's paper, in which he drops the scientist and becomes simply the man. I read it with deep interest, and with no small sympathy. In touching upon it, I shall make no reference (let him forgive me the expression) to his "damnatory clauses," or to his harmless menace, so deftly conveyed through the prophet Micah, to the public peace.

The exaltation of Religion as against Theology is at the present day not only so fashionable, but usually so domineering and contemptuous, that I am grateful to Professor Huxley for his frank statement that Theology is a branch of science; nor do I in the smallest degree quarrel with his contention that Religion and Theology ought not to be confounded. We may have a great deal of Religion with very little Theology; and a great deal of Theology with very

little Religion. I feel sure that Professor Huxley must observe with pleasure how strongly practical, ethical, and social is the general tenor of the three synoptic gospels; and how the appearance in the world of the great doctrinal gospel was reserved to a later stage, as if to meet a later need, when men had been toned anew by the morality and, above all, by the life, of our Lord.

I am not, therefore, writing against him, when I remark upon the habit of treating Theology with an affectation of contempt. It is nothing better, I believe, than a mere fashion; having no more reference to permanent principle than the mass of ephemeral fashions that come from Paris have with the immovable types of beauty. Those who take for the burden of their song, "Respect Religion, but despise Theology," seem to me just as rational as if a person were to say, "Admire the trees, the plants, the flowers, the sun, moon, or stars, but despise botany, and despise astronomy." Theology is ordered knowledge; representing in the region of the intellect what religion represents in the heart and life of man. And this religion, Mr. Huxley says a little further on, is summed up in the terms of the prophet Micah (vi, 8): "Do justly, and love mercy, and walk humbly with thy God." I forbear to inquire whether every addition to this—such, for instance, as the Beatitudes—is to be proscribed. But I will not dispute that in these words is conveyed the true ideal of religious discipline and attainment. They really import that identification of the will which is set out with such wonderful force in the very simple words of the "Paradiso:"

In la sua volontade è nostra pace,

and which no one has more beautifully described than (I think) Charles Lamb: "He gave his heart to the Purifier, his will to the Will that governs the universe." It may be we shall find that Christianity itself is in some sort a scaffolding, and that the final building is a pure and perfect theism: when (1 Cor. xv, 24, 28) "the kingdom shall be delivered up to God," "that God may be all in all." Still, I cannot help being struck with an impression that Mr. Huxley appears to cite these terms of Micah, as if they reduced the work of religion from a difficult to a very easy performance. But look at them again. Examine them well. They are, in truth, in Cowper's words,

Higher than the highs above,
Deeper than the depths beneath.

Do justly, that is to say, extinguish self; love mercy, cut utterly away all the pride and wrath, and all the cupidity, that make this fair world a wilderness; walk humbly with thy God, take his will and set it in the place where thine own was used to rule. "Ring out the old, ring in the new." Pluck down the tyrant from his place; set up the true Master on his lawful throne.

There are certainly human beings, of happy composition, who mount these airy highs with elastic step and with unabated breath.

Sponta sua, sine lege, fidem rectumque colebat.

—Ovid, *Metam.* i, 90.

This comparative refinement of nature in some may even lead them to undervalue the stores of that rich armory which Christianity has provided to equip us for our great life-battle. The text of the prophet Micah, developed into all the breadth of St. Paul and

St. Augustine, is not too much—is it not often all too little?—for the needs of ordinary men.

I must now turn, by way of epilogue, to Professor Max Müller; and I hope to show him that on the questions which he raises we are not very far apart. One grievous wrong, indeed, he does me in (apparently) ascribing to me the execrable word "theanthromorphic," of which I wholly disclaim the paternity, and deny the use. Then he says, I warn him not to trust too much to etymology. Not so. But only not to trust to it for the wrong purpose, in the wrong place; just as I should not preach on the virtue and value of liberty to a man requiring handcuffs. I happen to bear a name known, in its genuine form, to mean stones or rocks frequented by the glee; and probably taken from the *habitat* of its first bearer. Now, if any human being should ever hereafter make any inquiry about me, trace my name to its origin, and therefore describe the situation of my dwelling, he would not use etymology too much but would use it ill. What I protest against is a practice, not without example, of taking the etymology of mythologic names in Homer, and thereupon supposing that in all cases we have thus obtained a guide to their Homeric sense. The place of Nereus in the mind of the poet is indisputable; and here etymology helps us. But when a light-etymology is found for Hera, and it is therefore asserted that in Homer she is a light-goddess, or when, because no one denies that *Phoibos* is a light-name, therefore the Apollo of Homer was the Sun, then indeed, not etymology, but the misuse of etymology, hinders and misleads us. In a question of etymology, however, I shall no more meas-

ure swords with Mr. Max Müller than with Mr. Huxley in a matter of natural science, and this for the simple reason that my sword is but a lath. I therefore surrender to the mercy of this great philologist the derivation of *dine* and *diner* from *déjeuner*; which may have been suggested by the use of the word *dine* in our Bible (as John xxi, 12) for breakfasting; a sense expressed by La Bruyère (xi) in the words, "*Cliton n'a jamais eu, toute sa vie, que deux affaires, qu'il sont de dîner le matin, et de souper le soir.*"

But, Mr. Max Müller says, I have offended against the fundamental principles of comparative mythology. How, where, and why have I thus tumbled into mortal sin? By attacking solarism. But what have I attacked, and what has he defended? I have attacked nothing but the exclusive use of the solar theory to solve all the problems of the Aryan religions; and it is to this monopolizing pretension that I seek to apply the name of solarism, while admitting that "the solar theory has a most important place" in solving such problems. But my *vis-à-vis*, whom I really cannot call my opponent, declares that the solarism I denounce is not his solarism at all; and he only seeks to prove that "certain portions of ancient mythology have a directly solar origin." So it proves that I attack only what he repudiates, and I defend what he defends. That is, I humbly subscribe to a doctrine which he has made famous throughout the civilized world.

It is only when a yoke is put upon Homer's neck that I presume to cry "hands off!" The Olympian system, of which Homer is the great architect, is a marvelous and splendid structure. Following the guidance of ethnological affinities and memories, it in-

corporates in itself the most diversified traditions, and binds them into a unity by the plastic power of an unsurpassed creative imagination. Its dominating spirit is intensely human. It is therefore of necessity thoroughly anti-elemental. Yet, when the stones of this magnificent fabric are singly eyed by the observer, they bear obvious marks of having been appropriated from elsewhere by the sovereign prerogative of genius; of having had an anterior place in other systems; of having belonged to nature-worship, and in some cases to sun-worship; of having been drawn from many quarters, and among them from those which Mr. Max Müller excludes: from Egypt, and either from Palestine, or from the same traditional source to which Palestine itself was indebted. But this is not the present question. As to the solar theory, I hope I have shown either that our positions are now identical, or that, if there be a rift between them, it is so narrow that we may conveniently shake hands across it.

W. E. GLADSTONE.

POSTSCRIPT.—I learn with satisfaction that in America, where the stores of geological knowledge have been so greatly enlarged, the business of the Reconciler has been taken into the hands of scientists: Dr. Dana, Professor of Geology in Yale College, and Dr. Arnold Guyot, Professor of Geology and Physical Geography in New Jersey College. Both of these authorities, it appears, have adhered through a long career, and now adhere with increased confidence, to the idea of a substantial harmony between science and the Mosaic text. Professor Dana's latest tract has recently appeared in the *Bibliotheca*

Sacra for April, 1885. He thinks the evidence doubtful as to the priority of birds over the low or marsupian mammals (p. 214); but strong for an abundant early plant-life in the Azoic period (p. 213); and he holds with Professor Guyot, that the first, or cosmogonical, portion of the Proem not only accords with, but teaches, the nebular hypothesis (p. 220).

It is a relief to find that the burden of this argument is shared with witnesses who are competent and unsuspected on the scientific side; and who will not be liable to a repetition *mutatis mutandis* of an old objection: "*This people, which knoweth not the law, is accursed*" (St. John vii, 49).

Mr. Marsh, Professor of Paleontology in Yale College, holds (*Ornithodontes*, 1880, p. 137), on the grounds of the wide differences between the *archæopteryx* and the other types of early birds, that the common ancestor was remote, and probably Paleozoic. He also adheres to the order, 1. Reptiles; 2. Birds; 3. Mammals. (It may be well to refer to Sir C. Lyell, "*Principles of Geology*," vol. iii, p. 175, on the reasons why bird-remains are sometimes rare.)

In my passages referring to geological results, I would ask the reader to substitute *priority* for *succession*. The latter implies a continuity of series, which is not found in the scientific record, since it is broken by the absence of reference to the invertebrates of the paleozoic, and the reptiles of the mesozoic rocks.

W. E. G.

"DAWN OF CREATION"—AN ANSWER TO
MR. GLADSTONE.

BY ALBERT RÉVILLE, D.D.

I had been already a month in Italy, and expected to remain at least another there, and I was so absorbed in my journey, which was partly for pleasure, partly for instruction, through that beautiful country, that I gave absolutely no thought to politics or theology, except to the very special subject which had drawn me to Ravenna and Rome. Had there been elections in France which might have thrown my country into Parliamentary confusion? Were other elections impending in England menacing a people to whom I am much attached, with a similar fate? Did the Bulgarian question threaten Europe with a terrible storm? I confess, to my shame, that all these questions had become as foreign to my thoughts as the conflicts of Peru and Chili, or the question of the prolongation of the mandates of the Hungarian deputies. I lived wholly in pagan and Christian antiquity. My time also was limited and barely sufficient for the task I had undertaken. I only remember that one day at *table d'hôte* I took somewhat warmly the side of Mr. Gladstone—as far as it was proper for a stranger discussing the affairs of a country not his own to do so—against an old English lady who was vehemently denouncing the patriarch of English Liberalism. For with all due reserve on the points on which the English alone are competent to speak Mr.

Gladstone is, to us who hold ourselves Continental Liberals, one of the glories, one of the great moral forces, of European Liberalism. I am bound, however, to add that my defense of him was entirely restricted to the field of politics.

There seemed, therefore, a certain irony of fate to the writer of these lines when, a few days after this episode, at the same *table d'hôte*, an Italian count, who, unlike myself, was living wholly in the contemporary world, suddenly said to me, "You are M. Réville, are you not—Professor of the Collège de France?" "Yes." "Well, it seems that Mr. Gladstone has been attacking you sharply in an English review." "Impossible!" I exclaimed. "Yes, the *Italie* (an Italian newspaper published in French) says so, and I bring you the number."

This incident brought me a great increase of attention and courtesy in my hotel, where I had hitherto only been No. 17 or 19. I heard, or I thought I heard, that they were saying behind me, "That is the gentleman whom Mr. Gladstone has attacked in an English review." I had become a personage. The hotel-keeper and the waiters became more deferential, and I soon saw that it was beyond all doubt an honor and an advantage to be attacked by Mr. Gladstone.

Honors, however, have their drawbacks, and I think I perceived it when I paid my bill. The newspaper which had been shown me gave an account, after its fashion, of the attack of which I had been the object, but it threw very little light on the points of controversy, and I was not able to procure the number of the *Nineteenth Century*. It was no matter of indifference to me to know that I had been censured by

the ex-premier of the United Kingdom, for whose character and superior talents I had long felt a sincere admiration. But *age quad agis*. I had come to Italy for a special object. I could not deviate from it even for an empire, and when the first moment of surprise and emotion was over I said to myself, like a merchant on his holiday, "Business to-morrow! We will see to this in Paris."

At last, thanks to the obliging intervention of some friends in England, and especially to the kind editor of the *Nineteenth Century*, I am in a position not only to make myself acquainted with the article about myself, but also to submit to the English public, and, with every respect, to Mr. Gladstone himself, some reflections on the points on which, in language at once indulgent and severe, he has done me the honor of attacking me.

These remarks will serve to explain why I am so late in replying to the objections of my illustrious assailant. The delay, however, has had this advantage, that I have found my work half done, and by abler hands than mine. M. Max Müller, in an article entitled, "Solar Myths," has defended with his usual talent the theory which gives a naturalistic interpretation to the greater part of the myths that have come down to us from antiquity, or that can be even now collected in uncivilized nations. Mr. Huxley has demonstrated, with his accustomed vigor and with his indisputable competence, that Mr. Gladstone labors under illusions about the harmony which he supposes himself to have established between the Biblical account of the creation and the conclusions of modern science. I can only express to these two eminent men my gratitude for their good opinion of my

humble person, and assure Mr. Huxley in particular that, so far from resenting it, I am happy and proud that a man of his caliber should have so warmly taken my part, or, to speak more accurately, should have taken my writings as an occasion for defending what for him as for me is the cause of scientific truth.

I now come to the points of dispute. Mr. Gladstone, with a courtesy for which I must thank him, accuses my "Prolegomena" of being rather Epilegomena, because, as he says, I have in the first place, without any preliminary demonstration, eliminated from the field of the scientific history of religions all theories which start from the supposition of a supernatural revelation granted to primitive humanity. I have put, he maintains, in the "preface" of the "History of Religions" what ought logically only to come at the end, if it comes at all.

I will venture respectfully to observe that prefaces are usually composed by authors when their books are completed, and that they contain directly or indirectly their conclusions; at all events they foreshadow them. I did not begin a history of religions without having studied the subject as a whole. Moreover, the natural end of Prolegomena is to expound, and if necessary to demonstrate, the method which it is proposed to follow in the works to which they are prefixed. Mr. Gladstone is too clear-sighted not to understand at once that it makes an essential difference in the manner in which the history of religions must be treated whether the writer starts from the idea of a primitive revelation made to the human race, or whether he rejects this hypothesis as unproved or anti-scientific. In the first case, this history is the history of a prolonged decadence. In the second, it

is the history of a progressive evolution. I was therefore forced, by the very nature of things, to state which side I took on this grave question, since all that followed depended upon it. If Mr. Gladstone himself undertook a general history of religion, I would defy him to escape from this necessity.

My honored critic in the next place complains that I have chosen him, rather than many others, as the representative of the point of view favorable to the idea of a primitive revelation founded on the testimony of the Bible, whereas I ought rather to have referred to specialists, such as Dr. Reusch, who have developed this theory *ex professo*. Mr. Gladstone acknowledges that he would not now formulate his views as "crudely" as formerly on this question, which seemed then more simple than in these later times; that to presuppose the supernatural in such matters is to deviate from the law of scientific method; that he was especially absorbed with the luxuriant beauties of the Homeric poetry, and that he only entered indirectly into the theological bearings of his researches. He maintains only that there are evident traces in the poems of Homer of a historical connection with the traditions of the Hebrews, and especially with the book of Genesis. As for the precise form in which he expressed his views on this question, he insists on it so little that he has not wished to republish the book which contains them, and it has now become very rare. In fine, he refuses to admit the too dogmatic form given by me to that primitive orthodoxy which was revealed to the first man. It consisted at most "of rudimentary indications of what are now developed and established truths."

I can only bow before these attenuations, introduced by the author himself into a theory which had appeared to me, and to others also, to have assumed a much more definite and angular form. If I selected Mr. Gladstone rather than others as the representative of a point of view which is not mine, I did so on account of his eminence. His name has often been put forward in support of the theory which I considered myself obliged to attack. Being called upon by the position I hold to endeavor to make the educated public of my country familiar with an order of studies and controversies as yet very little cultivated in France, it was my duty to consider carefully the antagonists who might be opposed to me. The name of Dr. Reusch would have conveyed nothing to my audience or to my readers. The name of Mr. Gladstone shone with a very different splendor. I did not know, and was not bound to know—especially when I saw so eminent an Englishman as Sir G. Cox forming the same estimate as myself of Mr. Gladstone's views—that Mr. Gladstone had somewhat receded from the "crudity" of his early affirmations. I note with great satisfaction his corrections. I see in them a sign that his views are not as far as they were from mine, and I shall certainly mention in a new edition the limitations which Mr. Gladstone has himself thought fit to place upon his earlier ideas about the religious origins of humanity.

My illustrious adversary next passes from the defensive to the offensive, and reproaches me first of all for my manner of looking on the book of Genesis, and in the second place for my errors about the mythology of Homer.

On the second point I must decline at present to

enter into a prolonged controversy. Time, and, to a certain point, courage, fails me. In Homeric literature Mr. Gladstone is a specialist who might well intimidate greater scholars than myself. This does not, however, prevent me from thinking that when he sees a historical relation between the accounts in Genesis and the traditions embalmed in the Homeric poems he is looking through deceptive glasses which unconsciously impair the clearness of his sight. In our age he is about the only eminent scholar who has perceived this family resemblance. This is not a reason for asserting that it does not exist, but it is a reason for distrusting it, and I own that, for my part, I find it impossible to establish it. Purely external coincidences, analogies of detail, prove nothing in such a matter. The general history of religious beliefs and practices shows that very curious ideas and customs, entirely unconnected with those that now occupy us, have existed among very different and very distant nations, although it is not possible reasonably to suppose that they were communicated. In such cases it is necessary simply to investigate the psychological point of departure of these ideas and customs, and if this can be discovered, the conclusion must be drawn that the essential unity of the human mind causes it often, when starting from the same institution or principle, to arrive in many different regions at consequences, applications, and analogies of belief which are truly astonishing both from their strangeness and from their resemblances. The Incas who ruled over ancient Peru had certainly never read Machiavel, but those who study their history must admire the consummate art with which they knew how to govern their vast empire, regulating their conduct

by maxims which might seem borrowed from the great Florentine theorist. I must suspect that what Mr. Gladstone has taken for signs of a "historical relationship" between the Homeric poems and Genesis are merely superficial analogies, explained by the very nature of the human mind when brought face to face with the same problems, and implying none of those consequences which the eminent statesman wishes to draw from them.

I shall push my boldness one step further. Mr. Gladstone acknowledges himself, with the most engaging modesty, that "of any other system than the Olympian it would be presumption in him to speak, as he has, beyond this limit, none but the most vague and superficial knowledge." Let me regret deeply this gap in the learning of so distinguished a Hellenist. If there be any department of knowledge in which a comparison of analogies and correspondences is especially instructive, it is undoubtedly the history of religions. Each part of it throws light upon the others, and all who have devoted themselves to it will, I am sure, agree with me, that at every step some problem arises which appears inexplicable as long as we look at it only in one local religion, but finds an easy and immediate solution by reference to some other religion. M. Max Müller and the "Indianists" of his school have supplied us by this comparative method with very plausible explanations of many exceedingly obscure points in Greek mythology which could never have been elucidated if we had confined ourselves to Greece alone. Who could have otherwise arrived at the explanation of the love of Apollo for Daphne, and of the transformation of the young nymph into a laurel? By what other way

could we have traced to its origin the story of Prometheus? And to what error, to what impotence, are not those now condemned who attempt to explain the Olympian mythology by itself alone, without ever comparing it with the mythologies that are its sisters?

Let me add, however, that, while speaking in this way, I am one of those who are inclined to think that in these later years some injustice has been done to the Greek mythology and to its originality by resolving it, so to speak, into a multitude of extraneous elements coming from all quarters. I may perhaps give some small pleasure to Mr. Gladstone by informing him that I on the whole share his view about Heracles, whom I do not at all identify with the Phœnician Melkart. Both, I am persuaded, are solar divinities. The myths concerning Melkart, or forged in honor of that itinerant divinity, have largely entered into the developed legend of Heracles. Nevertheless, I think with Buttman, Otfried Müller, and Schmidt, that Heracles is primitively a conception purely and authentically Greek. Not only are the characters of the two divinities very different, it is also inadmissible that an exotic god should have held so considerable a place in the history of primitive Greece.

I acknowledge moreover that the place and the part assigned to Heracles in the Homeric poems have something in them difficult to explain. He is far from being represented there as a hero without reproach. He appears to be rather imposed on the poet by a commanding tradition than liked by him. I will add—what perhaps Mr. Gladstone will think very rash—that being but little convinced of the

unity of the Homeric poems, I regard as a not very skilful interpolation of a harmonist the passage of the *Odyssey*, xi, 601-604, where the received text distinguishes the Heracles admitted into the divine abode from the Heracles whom Ulysses perceives among the mournful shades that inhabit the kingdom of Hades. I have myself a little explanation of this apparent anomaly, but I hardly venture to propose it to the learned commentator of Homer. I think that Heracles was long a popular divinity in the lower ranks of the Greek population, still more legendary and especially less refined than his rival, the beautiful Phœbus Apollo, even though both may have sprung from the same root. But Phœbus Apollo was the sun-god preferred by the upper classes, by the nobles, the princes, and the kings. He was the aristocratic sun, and the poetry of the *aedes*, a poetry in some sort feudal, was from the beginning more in sympathy with the poet-and-musician-god, the sun-god of the upper classes, than with the Gargantua of the populace. Hence the depreciation of the latter and the kind of satisfaction with which his brutality, his arrogance, even his impiety and his crimes, are recounted. At a later period the popular legend obliged every one to respect its favorite hero, and, without effacing all his faults, impressed upon him definitively in the mythology the characters of the pacificator, the liberator, and the "Good Giant," which Mr. Gladstone, imprisoned in his "Homer," accuses me with some irony of having lightly attributed to a god who by no means deserved them. I do not know whether this explanation, which I could develop and support with some proofs, will find

any favor with my censor, and I merely submit it to him with deference.

Another indication of the limitation which the too exclusive study of a single author may impose on the most clear-sighted mind may be found in a little attack which Mr. Gladstone makes on me about Ixion and his burning wheel. It is true that a passage of Homer which speaks of Zeus as having loved the wife of Ixion does not agree with the myth ordinarily received and related at length by Pindar (*Pyth. ii*), according to which it was Ixion who pursued with his criminal addresses the spouse of Zeus. According to Pindar, Ixion's wheel was not "burning," but "winged." This contradiction between Homer and Pindar, and the difference between Pindar and the later mythology, only prove that originally many diverging mythical nations connected themselves with the name of Ixion, "the man on the wheel," the "revolving one," but the narrative of Pindar, an excellent witness to the myths which were then sung before assembled Greece, proves that this was the consecrated form which at that time dominated over all others. Whether the wheel was "burning" or simply "winged" is of no consequence. This does not deprive the student of myths of the right of bringing together all the mythic wheels, which, from India to the Poitevins of France, have in so many countries been employed to represent the sun. The sun was not only or always conceived as a happy and benevolent being. Phœbus Apollo himself is distinguished by something else than goodness and constant happiness, and the notion of the sun as an enslaved being, condemned to a weary task, forced to roll on forever, and therefore wretched, guilty and

punished, may be easily found elsewhere as well as in the myth of Ixion.

May I now be allowed to express the surprise which I felt in reading in Mr. Gladstone's article that the Poseidon of Homer, the god in whom the Latins thought they recognized their Neptune, "is not the god of the liquid element at all?" This statement appeared to me so contrary to evidence that I read it twice to assure myself that I was not mistaken. I willingly admit that the gods of Homer, at least the Olympian or superior gods, must no longer be confounded materially with the physical elements, of which they were originally the simple personifications. They are distinguished—not absolutely separated—from them. They are above all humanized. As the savage believes that the soul of a man may quit his body and walk abroad according to its caprices, so the Greek of the Homeric times distinguished the divine person from the physical elements that underlay it. He made of it a being superior to, but at the same time resembling, man; and he attributed to this being all the liberty of will, of movement, and of action that could be supposed to exist in a man of gigantic size, force, and intelligence. Side by side with these gods now emancipated from their material prison, the Greek mythology, with the easy syncretism which belongs to polytheistic systems, kept up the memory of other gods which were not in reality older, but which corresponded to older notions: Helios by the side of Apollo, Selene by the side of Artemis, Okeanos and Nereus by the side of Poseidon, etc. But to pretend that this latter is not essentially a sea-god, in Homer as everywhere else—an ancient personification of the liquid element—he

and his spouse Amphitrite, who surrounds the earth and beats it with her incessant waves—is to take up a position in direct contradiction to the beautiful description of the "Iliad" (lib. xiii, 10 sq.), while through the "Odyssey" the hero is compelled continually to suffer upon the sea the effects of the anger of the god of the seas. Does not Poseidon himself declare in the "Iliad" that in the division of the world between himself and his two brothers he received for his lot "the foaming sea" (xv, 190)?

What does it signify that he has been in some places adored as the supreme God?—this is true of almost all the gods of polytheism; or that his worship may be found in the midst of a continent?—the fountains of water, the sources of the rivers, were there attributed to him; or that he loved to visit the Ethiopians?—this was a very usual taste among the Greek gods; Mr. Gladstone knows the reason as well as I do.

I shall not dilate upon the objections he advances on the subject of Hera, the august spouse of Zeus, who seems to me to have personified the sky in its inconstant aspect, mobile, easily disturbed, as if she represented the variable and lower element, while Zeus, her husband, is rather the unchanging sky, in the majestic serenity of its unalterable blue. When they are united and agreed, nothing can equal the smiling beauty of Nature. When they are divided and disputing, all goes wrong. Moreover, in the "Iliad," Hera shares, though in a lower measure, the powers of Zeus. She also scolds from the celestial heights, and can, in concert with Boreas, let loose the storms (Il. xi, 42; xv, 26). I know that the question of her physical origin is less simple than that of most

of the Olympians. I myself hesitated long about whether she ought to be placed in the category of the earth goddesses like Gaia, Rhea, Cybele, Themis, Danae, Leto, Semele, and probably Dione of Dodona. Analogy appeared to lead to this conclusion. Nevertheless, on the whole, Hera seems to me to want the characteristics which usually distinguish the earth goddesses. She has neither their fixity—for *la donna è mobile*—nor their attributes of divination. Her typical bird, the peacock, with its expanding tail, seems rather to suggest the starry sky than the earth. Her position as the recognized spouse of the god of the heavens, distinct from the earth goddesses, who originally held the first rank in the great number of local mythologies (which, it may be said in passing, contributed greatly to tarnish the conjugal reputation of Zeus), seems to me to be traceable to a time, already past in the Homeric age, when the division of the world into three distinct kingdoms, each with its supreme god, was generally recognized in the Greek world. From that period it must have appeared natural that the titular spouse of the supreme celestial god should have been herself celestial, and not a personification of the marine element or of the earth, which had in Hades its supreme god in Pluto, and its goddess in Demeter or Persephone, just as the sea-god Poseidon had as his "parhedra" Amphitrite, the Nereid. But I repeat it, this question of Hera is one of the most obscure in Greek mythology; I do not pretend to discuss or to resolve it in my "Prolegomena," where I only alluded to it in passing, nor can I attempt to treat it fully in a mere controversial article. I only wish to show my eminent critic that it has not been with a superficial presumption that I

allotted to Hera the mythological title of "Queen of the Shining Heaven"—I am persuaded that she has a right to it.

In the next place, I must protest against the term "solar theory," which Mr. Gladstone applies to my general views about mythology. It is the "naturalistic theory" that I have supported—that is, the theory which explains the genesis of mythologies by the personification and dramatization of natural phenomena. Undoubtedly that theory when well understood supposes the action of the religious sentiment inherent in human nature. There is nothing in it materialistic or irreligious. Undoubtedly, also, the sun and the phenomena connected with it, hold so prominent a place that it is natural to expect that social myths will be the most conspicuous by their number, their attraction, and their variety. But the sun is still only a part of a whole which our languages and our modern minds designate by the word nature. Side by side with the solar myths, there are myths which are purely celestial, marine, and tellurian. It is neither accurate nor just, systematically to describe the whole by one of its parts. I am astonished that the sagacity of Mr. Gladstone has not long since led him to favor an explanation which has found a brilliant confirmation in the relations discovered between the Greek mythology and the mythologies of India and the other Aryan regions, and which Egypt, America, Oceanica, Africa, even China, not to speak of the Semitic races, have, I will venture to say, raised to the position of demonstrated truth. But, to judge the force of this demonstration, a scholar must not confine himself to the Homeric poetry.

I shall now pass to the other part of Mr. Glad-

stone's attack, which relates to the errors I am supposed to have committed in denying that the Biblical account of the creation agrees with the results of modern natural science. This, if I mistake not, is the part which will have most interested the majority of his readers.

I have said in my "Prolegomena," while rendering full homage to the beauty and religious purity of the Biblical account of the creation, that it contains assertions contradicted by modern science. Thus the firmament destined to separate the waters below from those above is represented as a solid vault; the stars have been created after the earth, the periods of creation or formation are single days. I have also, it appears, not recognized the wonderfully scientific order of the successive appearance of the creatures that inhabit the water, the air, and the earth, until at last man appears to crown and complete the work of creation. These are my principal heresies, in addition to which I am accused of having put forward some bad-sounding propositions about the moral state of the first couple, as it appears in the account of the fall in Eden, and about the meaning of the plural which the creator employs in speaking of himself.

I must allow myself to remind my readers that my object in treating these questions was neither to attack nor to defend the sacred writings. It was solely to show, by a succinct analysis of their chief contents, that the partisans of a primitive doctrinal revelation are mistaken in supposing that the Bible itself supports their view.

For the rest, even after the ingenious pleadings of Mr. Gladstone, I maintain my assertions.

Mr. Huxley has made it unnecessary for me to dwell upon the pretended conformity of the successive appearances of organized beings in Genesis with the results that have been established by contemporary geology. It is not true that the vegetable, aquatic, flying, quadruped, and reptile species succeeded each other in their totality in the order specified by the canonic writer. Mr. Gladstone seems to have lost sight of the fact that at verses 11 and 12 the whole vegetable world in all its departments, as the author of the narrative knew it, had made its complete appearance at the command of God. Consequently, the objection drawn from the absence of the solar light remains in all its force. For it is not a diffused light, concentrating itself gradually round the sun, that could have simultaneously permitted all the vegetable species to develop over the surface of the earth. I know well that a lax interpretation has transformed the days of Genesis into periods of immense length, in spite of the mention of "evening" and "morning" which closes each of the creative acts. Unfortunately, it is impossible to adopt this interpretation. For it is on the supposition that the days of the creation were similar to our own that the famous commandment of the Sabbath is based, and this is the motive assigned for it by the Hebrew legislator: "Thou shalt work six days and do all thy work, but the seventh day is the Sabbath of the Lord thy God. Thou shalt do no work on that day. . . . *For in six days the Lord made the heavens, the earth, and the sea, and all that is in them, and rested the seventh day.*" Now, if the days of the creation should be understood as periods of thousands or millions of years, I

beg Mr. Gladstone to explain how they can serve as an argument in support of the command to work for six days of our week and to rest on the seventh.

I also regret to tell him that the Hebrew word ordinarily translated in our versions by the word firmament, while it expresses the idea of an expansion, of something that is stretched out, expresses also that of something solid. This is why the firmament supports the waters that are above it, and separates them according to the divine will from those which are below it (v. 6, 7). Otherwise the passage would be incomprehensible. This idea of a solid sky is general throughout antiquity, and the sacred text, when it proceeds to the account of the deluge, does not fail to tell us that the sluices or closing parts of the heavens were opened, which brought about the junction of the waters above the heavens with the waters below the earth, which rose from the springs of the great abyss, so that the earth was entirely covered from the second divine work of the creation was for the time annulled (comp. Gen. vii, 10-12; i, 6-8, and also in the same order of ideas Ps. cxlviii, 4; Apoc. iv, 6). All these ways of representing things suppose the solidity of the firmament, and the LXX in translating the Hebrew word by στερέωμα have perfectly given its sense. Στερός, in fact, expresses the idea of firmness and solidity.

I am also afraid that Mr. Gladstone attaches a very undue and ill-founded importance to the metaphysical distinction which he establishes between the expressions "to create" and "to make," which are used alternately in the account in Genesis of the successive works of the creator. It is true that it is said God created the heavens and the earth (i, 1), God *made*

the firmament (v. 7), God *made* the sun and the moon (v. 16), God *created* the great fishes (v. 21), God *made* the terrestrial animals (v. 25), and God *created* man (v. 27). But are we therefore authorized to think that the canonical writer intended to mark the enormous difference from a metaphysical point of view, which separates creation—that is, calling being into existence by an incomprehensible act of divine power—from the act of making? Hebraists are far from certain that the word *barah*, which we translate by "to create," had this exclusive and rigorous meaning. It signifies, according to the dictionaries, "to form," "to fashion," as well as "to create." The LXX had no idea of expressing the distinction between creating and making. They might certainly have employed alternately the words *χρῆζειν* and *ποιεῖν*. They did not do so, probably because the distinction of meaning escaped their notice. Moreover, a clear proof that the distinction to which Mr. Gladstone appeals has not a great importance is that in v. 26 God says, "Let us *make* man in our image," and in v. 27 it is said, "God *created* man in his image." It is evident from this that in the mind of the author the words "create" and "make" might be used undistinguishably, and that we moderns are quite wrong in trying to force our metaphysical distinctions on old historians who never dreamed of them.

But what use is there, it will be said, in these subtle discussions? It remains not the less certain that canonical writers wished to express the great monotheistic truth that God is the only and absolute author of the world and of all that exists, that he is the principle and source of being, and this is all that

it is necessary from a religious point of view to maintain. Be it so, but it is in a distinction, which is in my eyes an anachronism, that Mr. Gladstone hopes to find an answer to those who object to the pretended harmony between Genesis and modern science that the first represents the sun, moon, and stars, as created subsequently to the earth, and intended only to throw light upon it. I think in truth that this was the idea of the sacred writer, and that every one who reads him without a preconceived opinion would derive this impression from his words. But this is not the opinion of Mr. Gladstone. No, he says, God did not *create*, in the strict sense of the word *create*, the celestial bodies on the fourth day, when the earth already existed, freed from waters and covered with plants; he *made* them, which is a very different thing; he assigned them their place in relation to the earth. They were, no doubt, already included in the creation of the heavens which is mentioned in the first verse. The fourth day only marks the moment of the final exclusive concentration of light in the sun and of its reflection on the moon and on the planets. I must here stop: I do not wish to prolong this explanation to the point of giving it an appearance of irony. I would only submit this question to any impartial reader—when it is said that God determined that there should be light-giving bodies in the firmament, to divide the seasons, and to shine upon the earth, that God *made* them, and that God *placed* them in the firmament, is it conceivable that such words were intended to convey that these light-bearing bodies already existed, and that the work of the creator on that day consisted simply of assigning them a place, an orbit, and a power of radiation? Whether

God *made* or *created* the stars on the fourth day, after the earth and its vegetation, the difficulty remains absolutely the same.

Having said this, I have now only to defend myself against two reproaches of a certain importance.

Mr. Gladstone blames me for having misinterpreted the passage, "Let *us* make man in our image," in which orthodox Christianity wishes to see an allusion to the Trinity. I have suggested that this is either a *pluralis majesticus*, or that this passage may imply the existence of celestial beings, the Bené Elohim, in whose presence the creator was displaying his energies, and whom he invites to some kind of coöperation when he comes to the last and the most perfect of his works. I have not concealed my preference for the second explanation which appears to me supported by the analogy of other passages of the Old Testament, such as Gen. iii, 22; vi, 2; Job xxxviii, 7. I must decline absolutely the honor which Mr. Gladstone is good enough to do me in representing me as opposing proudly and presumptuously my solitary opinion to the traditions of the Christian church. There are passages in the Bible, as, for example, Isaiah vii, 14, concerning which the unanimity of tradition does not prevent it from being very erroneous. But as for the passage we are now discussing, I am very far from being alone in my opinion, and I wait for some other refutation than an appeal to a tradition of which those who alone for so many centuries knew how to read or to interpret the original Hebrew were profoundly ignorant.

In the last place Mr. Gladstone is much surprised that, relying on the picture which the author of the second chapter of Genesis traces of the life of the first

human couple in Eden, I say that he represents them as ignorant of the elementary notions of morality. He admits, indeed, that it is only possible to ascribe to them "the morality of a little child, the undeveloped morality of obedience." This is already some approach to an agreement. But in my turn I will venture to ask him if he has duly weighed the full significance of the declaration that they were without the knowledge of good and evil? that they only acquired this knowledge by a transgression the immoral character of which must necessarily have escaped them? I have not to justify or to criticise the canonical writer. I confine myself to registering his statement. There are but these two alternatives. Either Adam and Eve before eating the forbidden fruit knew that they were committing, not a false calculation, not an act of imprudence, but a fault in the moral sense of the word, and in that case it is inadmissible that they had no knowledge of good and evil until after they had eaten it; or else they had, as the canonical narrative affirms, up to this time no knowledge of good or evil, and in that case I am perfectly justified in saying that they were strangers to the most elementary notions of morality. And I see a confirmation of this opinion in the incident related by the sacred author with so much psychological truth, according to which the sentiment of shame, which distinguishes so clearly man, the moral being, from the brute, only awoke in them after they had eaten the forbidden food.

No doubt much may be said about the meaning or the possible meanings of this mythical story. The great difficulty in penetrating to its true meaning comes not only from the fact that a later theology

has based upon its poetry imposing dogmas of which the author had no idea, and that many succeeding generations have only looked on it through the factitious lights created by these traditional dogmas; it comes also from the fact that the author himself could not completely extricate himself from the apparent contradiction of the two principles to which he tries to do justice. On the one side man has advanced; he knows what he did not know; he has become a moral being; the serpent has not lied; his eyes have been opened. On the other side the progress seems to have been accomplished against God and in spite of God. We find elsewhere this double sentiment of a timid piety, which, while recognizing the progress of man as good in itself, finds it difficult to imagine that it does not constitute an insolent, impious, guilty revolt against the sovereign God. Is not this the point of view of old Æschylus in the drama of "Prometheus?" But it is not now our business to resolve the antinomies involved in the narratives we are trying to interpret. It is sufficient to interpret them exactly. How many of the most eminent minds find it difficult to read them without infusing into them ideas or points of view which distort their meaning! The same author in connecting with a divine malediction provoked by the first transgression certain collective evils which afflict the man, the woman, and the serpent, says that God pronounced that there should be henceforth enmity between the posterity of the serpent and the posterity of the woman, that the posterity of the woman should attack the serpent on the head (or bruise its head), and that the serpent or its posterity should attack on the heel the posterity of the woman. Others besides myself have

thought that it has been a mistake in the Christian church to see a prophecy of the Redemption in this curse which leaves the two adversaries in a relation of mortal enduring hostility, without giving any prospect of its cessation (compare Gen. iii, 15). But this displeases Mr. Gladstone. He thinks he finds an indication of the superiority and final victory of man in the fact that man attacks his enemy on the head, and that his enemy can only attack him on the heel, for the head is much more essential to life than the foot. Good heavens! If Mr. Gladstone were unfortunate enough to be bitten on the heel by a venomous serpent, would his lot be much more favorable than that of the serpent whose head he had crushed?

I shall not pause upon a little cavil which he raises against me about the somewhat strange text Genesis iv, 26, generally translated, "Then they began to invoke the name of Jahveh." The importance of this Jahvistic text comes especially from its contradiction with the Elohist text, Exodus vi, 2, 3, from which it seems to follow that the name of Jahveh was unknown to the patriarchs. However this may be, and without entering into a discussion which would be necessarily too long, and even if the phrase ought to be put in the singular, with the Samaritan codex and the LXX, which the Hebrew text puts in the plural, I maintain that this text may be always justly adduced against those who pretend that the first man received a doctrinal revelation in the beginning. This is all that I attempted to maintain in my "Prolégomena," and I do not think that the arguments of my respected critic are of a nature to weaken the proof.

I am sincerely grateful to him for not having con-

founded me with those who despise or detest religion itself. Though much detached from the dogmatic traditions of the church, I am in truth more and more convinced of the legitimacy of the religious principle in the human mind. I see in it a prophetic indication of the higher destiny of man; and I must add that it is my conviction that religion among civilized men is for ever destined to move in the same direction which the gospel gave it eighteen hundred years ago. Either man will cease to be religious, or he will find himself compelled to be in a certain measure Christian. I do not recognize myself, therefore, in the eloquent and moving picture which Mr. Gladstone has drawn at the end of his article of the iconoclasts who are exulting in the idea that they have destroyed one or other of the beliefs from which so many generations have drawn their best consolation and hopes. If I have been able like others to greet with enthusiasm the complete liberty of conscience and intelligence contained in principle in the gospel, partially restored at the Reformation and completely won in our own day, I have also more than once known what it is to bid melancholy farewell to traditional doctrines which had charmed my childhood and my youth with their grandeur, their poetry, and their mystic beauty. The fruits of the tree of knowledge are sometimes bitter, and Mr. Gladstone is quite right in protesting against the brutality with which the venerable roots of the ancient faith are sometimes treated.

But allow me to tell him that there is one thing of far higher importance than the propriety and the decency which he demands from contemporary criticism. It is that it should be inspired by a genuine and

disinterested love of truth. I can well imagine that the defenders of expiring paganism or the sincere Roman Catholics who lived during the destructive revolution of Luther, shed many a tear over the kind of fury with which men were sapping the very foundations of systems which seemed to them the most sacred and the most consoling in the world. Yet the Christians of the fourth century, the Protestants of the sixteenth, were in *the truth*; they were on the path that leads upward to truth. Let us keep clear of all passion, whether it be conservative or negative. Passion always blinds. But let us have the courage to seek for and express the truth, as it appears to our minds, in all its simplicity and its purity. Do not let us be alarmed by the torrents swollen with the autumnal rains, nor yet with the frost that congeals the waters and the plants. In due time the spring will come with its brightness and its flowers. The worst thing that could happen would be that humanity should cease to discuss those great problems which constitute at once its torment, its nobility, and its happiness. This danger is not now to be feared. On the contrary, we may hope that from the angry shock of opposing religious principles and ideas a great synthesis will arise which may satisfy the wants and aspirations of all. We shall probably not see it with the eyes of the flesh, but we may all contribute to its advent by seeking for truth in religion as in all other things, laboriously, faithfully, and courageously. Neither the rage of an irreligious fanaticism, nor the sentimentality of an emasculated romanticism, must guide us in this voyage toward the unknown or the little known. The love of truth is but one of the

elements of the love of God, since truth is but one of the aspects of his supreme perfection. If Christ lived and spoke in the midst of us, unless he were untrue to himself, he could speak no other language. Let us search, study, work, each in his sphere, for the good, the just, and the true, in nature, in society, in the soul. I know an illustrious statesman who in our days has been one of the great workers of God in the work of justice on the earth. Perhaps he has been less happy in his excursions into the field of religious science. It is still a great and salutary example which he has given to his contemporaries in turning to this side also his powerful and brilliant intellect. However this may be, just because we believe in God, let us never lose our faith in the final results of sincere search for truth everywhere and always, whether it be in the vast and obscure fields of physical nature or in the records which embalm the experiences and the beliefs of our race. This work, carried on by very different intellects, cannot be accomplished without discussions or without errors. But let us never lose courage. *Magna est veritas et prævalebunt.*

ALBERT RÉVILLE, D.D.

MR. GLADSTONE AND GENESIS.

BY T. H. HUXLEY.

In controversy, as in courtship, the good old rule to be off with the old before one is on with the new greatly commends itself to my sense of expediency. And therefore it appears to me desirable that I should preface such observations as I may have to offer upon the cloud of arguments (the relevancy of which to the issue which I had ventured to raise is not always obvious) put forth by Mr. Gladstone in the January number of this *Review*, by an endeavor to make clear to such of our readers as have not had the advantage of a forensic education the present net result of the discussion.

I am quite aware that, in undertaking this task, I run all the risks to which the man who presumes to deal judicially with his own cause is liable. But it is exactly because I do not shun that risk, but, rather, earnestly desire to be judged by him who cometh after me, provided that he has the knowledge and impartiality appropriate to a judge, that I adopt my present course.

In the article on the "Dawn of Creation and of Worship" it will be remembered that Mr. Gladstone unreservedly commits himself to three propositions. The first is that, according to the writer of the Pentateuch, the "water-population," the "air-population," and the "land-population" of the globe were created successively, in the order named. In the second place, Mr. Gladstone authoritatively asserts that this

(as part of his "fourfold order") has been "so affirmed in our time by natural science, that it may be taken as a demonstrated conclusion and established fact." In the third place, Mr. Gladstone argues that the fact of this coincidence of the Pentateuchal story with the results of modern investigation makes it "impossible to avoid the conclusion, first, that either this writer was gifted with faculties passing all human experience, or else his knowledge was divine." And, having settled to his own satisfaction that the first "branch of the alternative is truly nominal and unreal," Mr. Gladstone continues, "So stands the plea for a revelation of truth from God, a plea only to be met by questioning its possibility."

I am a simple-minded person, wholly devoid of subtlety of intellect, so that I willingly admit that there may be depths of alternative meaning in these propositions out of all soundings attainable by my poor plummet. Still, there are a good many people who suffer under a like intellectual limitation; and, for once in my life, I feel that I have the chance of attaining that position of a representative of average opinion which appears to be the modern ideal of a leader of men, when I make free confession that, after turning the matter over in my mind with all the aid derived from a careful consideration of Mr. Gladstone's reply, I cannot get away from my original conviction that, if Mr. Gladstone's second proposition can be shown to be not merely inaccurate, but directly contradictory of facts known to everyone who is acquainted with the elements of natural science, the third proposition collapses of itself.

And it was this conviction which led me to enter upon the present discussion. I fancied that if my

respected clients, the people of average opinion and capacity, could once be got distinctly to conceive that Mr. Gladstone's views as to the proper method of dealing with grave and difficult scientific and religious problems had permitted him to base a solemn "plea for a revelation of truth from God" upon an error as to a matter of fact, from which the intelligent perusal of a manual of paleontology would have saved him, I need not trouble myself to occupy their time and attention with further comments upon his contribution to apologetic literature. It is for others to judge whether I have efficiently carried out my project or not. It certainly does not count for much that I should be unable to find any flaw in my own case, but I think that it counts for a good deal that Mr. Gladstone appears to have been equally unable to do so. He does, indeed, make a great parade of authorities, and I have the greatest respect for those authorities whom Mr. Gladstone mentions. If he will get them to sign a joint memorial to the effect that our present paleontological evidence proves that birds appeared before the "land-population" of terrestrial reptiles, I shall think it my duty to reconsider my position—but not till then.

It will be observed that I have cautiously used the word "appears" in referring to what seems to me to be absence of any real answer to my criticisms in Mr. Gladstone's reply. For I must honestly confess that, notwithstanding long and painful strivings after clear insight, I am still uncertain whether Mr. Gladstone's "Defense" means that the great "plea for a revelation from God" is to be left to perish in the dialectic desert, or whether it is to be withdrawn

under the protection of such skirmishers as are available for covering retreat.

In particular the remarkable disquisition which covers pages 86 to 92 of Mr. Gladstone's last contribution has greatly exercised my mind. Socrates is reported to have said of the works of Heraclitus that he who attempted to comprehend them should be a "Delian swimmer," but that, for his part, what he could understand was so good that he was disposed to believe in the excellence of that which he found unintelligible. In endeavoring to make myself master of Mr. Gladstone's meaning in these pages, I have often been overcome by a feeling analogous to that of Socrates, but not quite the same. That which I do understand, in fact, has appeared to me so very much the reverse of good that I have sometimes permitted myself to doubt the value of that which I do not understand.

In this part of Mr. Gladstone's reply, in fact, I find nothing of which the bearing upon my arguments is clear to me, except that which relates to the question whether reptiles, so far as they are represented by tortoises and the great majority of lizards and snakes, which are land animals, are creeping things in the sense of the Pentateuchal writer or not.

I have every respect for the singer of the Song of the Three Children (whoever he may have been); I desire to cast no shadow of doubt upon, but, on the contrary, marvel at, the exactness of Mr. Gladstone's information as to the considerations which "affected the method of the Mosaic writer;" nor do I venture to doubt that the inconvenient intrusion of these contemptible reptiles—"a family fallen from greatness" (p. 91), a miserable decayed aristocracy reduced to

mere "skulkers about the earth" (*ibid.*)—in consequence apparently of difficulties about the occupation of land arising out of the earth-hunger of their former serfs, the mammals—into an apologetic argument, which otherwise would run quite smoothly, is in every way to be deprecated. Still, the wretched creatures stand there, importunately demanding notice; and, however different may be the practice in that contentious atmosphere with which Mr. Gladstone expresses and laments his familiarity, in the atmosphere of science it really is of no avail whatever to shut one's eyes to facts, or to try to bury them out of sight under a tumulus of rhetoric. That is my experience of "the Elysian regions of Science," wherein it is a pleasure to me to think that a man of Mr. Gladstone's intimate knowledge of English life during the last quarter of a century believes my philosophic existence to have been rounded off in unbroken equanimity.

However reprehensible, and indeed contemptible, terrestrial reptiles may be, the only question which appears to me to be relevant to my argument is whether these creature are or are not comprised under the denomination of "everything that creepeth upon the ground."

Mr. Gladstone speaks of the author of the first chapter of Genesis as "the Mosaic writer;" I suppose, therefore, that he will admit that it is equally proper to speak of the author of Leviticus as the "Mosaic writer." Whether such a phrase would be used by any one who had an adequate conception of the assured results of modern Biblical criticism is another matter; but, at any rate, it cannot be denied that Leviticus has as much claim to Mosaic author-

ship as Genesis. Therefore, if one wants to know the sense of a phrase used in Genesis, it will be well to see what Leviticus has to say on the matter. Hence, I commend the following extract from the eleventh chapter of Leviticus to Mr. Gladstone's serious attention:

And these are they which are unclean unto you among the creeping things that creep upon the earth: the weasel, and the mouse, and the great lizard after its kind, and the gecko, and the land-crocodile, and the sand-lizard, and the chameleon. These are they which are unclean to you among all that creep (v. 29-31).

The merest Sunday-school exegesis therefore suffices to prove that when the "Mosaic writer" in Genesis i, 24, speaks of "creeping things" he means to include lizards among them.

This being so, it is agreed on all hands that terrestrial lizards, and other reptiles allied to lizards, occur in the Permian strata. It is further agreed that the Triassic strata were deposited after these. Moreover, it is well known that, even if certain footprints are to be taken as unquestionable evidence of the existence of birds, they are not known to occur in rocks earlier than the Trias, while indubitable remains of birds are to be met with only much later. Hence it follows that natural science does not "affirm" the statement that birds were made on the fifth day, and "everything that creepeth on the ground" on the sixth, on which Mr. Gladstone rests his order; for, as is shown by Leviticus, the "Mosaic writer" includes lizards among his "creeping things."

Perhaps I have given myself superfluous trouble in the preceding argument, for I find that Mr. Gladstone is willing to assume (he does not say to admit)

that the statement in the text of Genesis as to reptiles cannot "in all points be sustained." But my position is that it cannot be sustained in any point, so that, after all, it has perhaps been as well to go over the evidence again. And then Mr. Gladstone proceeds, as if nothing had happened, to tell us that—

There remain great unshaken facts to be weighed. First, the fact that such a record should have been made at all.

As most peoples have their cosmogonies, this "fact" does not strike me as having much value.

Secondly, the fact that, instead of dwelling in generalities, it has placed itself under the severe conditions of a chronological order reaching from the first *nisus* of chaotic matter to the consummated production of a fair and goodly, a furnished and a peopled world.

This "fact" can be regarded as of value only by ignoring the fact demonstrated in my previous paper that natural science does not confirm the order asserted so far as living things are concerned; and by upsetting a fact to be brought to light presently, to wit, that, in regard to the rest of the Pentateuchal cosmogony, prudent science has very little to say one way or the other.

Thirdly, the fact that its cosmogony seems, in the light of the nineteenth century, to draw more and more of countenance from the best natural philosophy.

I have already questioned the accuracy of this statement, and I do not observe that mere repetition adds to its value.

And, fourthly, that it has described the successive origins of the five great categories of present life with which human experience was and is conversant, in that order which geological authority confirms.

By comparison with a sentence on page 92, in

which a fivefold order is substituted for the "fourfold order," on which the "plea for Revelation" was originally founded, it appears that these five categories are "plants, fishes, birds, mammals and man," which, Mr. Gladstone affirms, "are given to us in Genesis in the order of succession in which they are also given by the latest geological authorities."

I must venture to demur to this statement. I showed, in my previous paper, that there is no reason to doubt that the term "great sea monsters" (used in Genesis i, 21) includes the most conspicuous of great sea animals—namely, whales, dolphins, porpoises, manatees, and dugongs;* and as these are indubitable mammals, it is impossible to affirm that mammals come after birds, which are said to have been created on the same day. Moreover, I pointed out that as these Cetacea and Sirenia are certainly modified land animals, their existence implies the antecedent existence of land mammals.

Furthermore, I have to remark that the term "fishes," as used technically in zoology, by no means covers all the moving creatures that have life, which are bidden to "fill the waters in the seas" (Genesis i, 20-22). Marine mollusks and crustacea, echinoderms, corals, and foraminifera are not technically fishes. But they are abundant in the paleozoic rocks, ages upon ages older than those in which the first evidences of true fishes appear. And if, in a geological book, Mr. Gladstone finds the quite true statement that plants appeared before fishes, it is only by a complete misunderstanding that he can be led to

*Both dolphins and dugongs occur in the Red Sea, porpoises and dolphins in the Mediterranean; so that the "Mosaic writer" may well have been acquainted with them.

imagine it serves his purpose. As a matter of fact, at the present moment, it is a question whether, on the bare evidence afforded by fossils, the marine creeping things or the marine plant has the seniority. No cautious paleontologist would express a decided opinion on the matter. But, if we are to read the Penta-teuchal statement as a scientific document (and, in spite of all protests to the contrary, those who bring it into comparison with science do seek to make a scientific document of it), then, as it is quite clear, that only terrestrial plants of high organization are spoken of in verses 11 and 12, no paleontologist would hesitate to say that, at present, the records of sea animal life are vastly older than those of any land plant describable as "grass, herb yielding seed, or fruit-tree."

Thus, although, in Mr. Gladstone's "Defense," the "old order passeth into new," his case is not improved. The fivefold order is no more "affirmed in our time by natural science" to be a "demonstrated conclusion and established fact" than the fourfold order was. Natural science appears to me to decline to have anything to do with either; they are as wrong in detail as they are mistaken in principle.

There is another change of position, the value of which is not so apparent to me as it may well seem to be to those who are unfamiliar with the subject under discussion. Mr. Gladstone discards his three groups of "water-population," "air-population," and "land-population," and substitutes for them (1) fishes, (2) birds, (3) mammals, (4) man. Moreover, it is assumed in a note that "the higher or ordinary mammals" alone were known to the "Mosaic writer" (p. 78). No doubt it looks, at first, as if something

were gained by this alteration; for, as I have just pointed out, the word "fishes" can be used in two senses, one of which has a deceptive appearance of adjustability to the "Mosaic" account. Then the inconvenient reptiles are banished out of sight; and, finally, the question of the exact meaning of "higher" and "ordinary" in the case of mammals opens up the prospect of a hopeful logomachy. But what is the good of it all in the face of Leviticus on the one hand and of paleontology on the other?

As, in my apprehension, there is not a shadow of justification for the suggestion that when the Penta-teuchal writer says "fowl" he excludes bats (which, as we shall see directly, are expressly included under "fowl" in Leviticus), and as I have already shown that he demonstrably includes reptiles, as well as mammals, among the creeping things of the land, I may be permitted to spare my readers further discussion of the "fivefold order." On the whole, it is seen to be rather more inconsistent with Genesis than its fourfold predecessor.

But I have yet a fresh order to face. Mr. Gladstone understands "the main statements of Genesis, in successive order of time, but without any measurement of its divisions, to be as follows:

1. A period of land, anterior to all life (v. 9 and 10).
2. A period of vegetable life, anterior to animal life (v. 11 and 12).
3. A period of animal life, in the order of fishes (v. 20).
4. Another stage of animal life, in the order of birds.
5. Another, in the order of beasts (v. 24 and 25).
6. Last of all, man (v. 26 and 27).

Mr. Gladstone then tries to find the proof of the

occurrence of a similar succession in sundry excellent works on geology.

I am really grieved to be obliged to say that this third (or is it fourth?) modification of the foundation of the "plea for Revelation" originally set forth, satisfies me as little as any of its predecessors.

For, in the first place, I cannot accept the assertion that this order is to be found in Genesis. With respect to No. 3, for example, I hold, as I have already said, that "great sea monsters" includes the Cetacea, in which case mammals (which is what, I suppose, Mr. Gladstone means by "beasts") come in under head No. 3, and not under No. 5. Again, "fowl" are said in Genesis to be created on the same day as fishes; therefore I cannot accept an order which makes birds succeed fishes. Once more, as it is quite certain that the term "fowl" includes the bats—for in Leviticus xi, 13-19, we read, "And these shall ye have in abomination among the fowls . . . the heron after its kind, and the hoopoe, and the bat"—it is obvious that bats are also said to have been created at stage No. 3. And as bats are mammals, and their existence obviously presupposes that of terrestrial "beasts," it is quite clear that the latter could not have first appeared as No. 5. I need not repeat my reasons for doubting whether man came "last of all."

As the latter half of Mr. Gladstone's sixfold order thus shows itself wholly unauthorized by, and inconsistent with, the plain language of the Pentateuch, I might decline to discuss the admissibility of its former half.

But I will add one or two remarks on this point also. Does Mr. Gladstone mean to say that in any of

the works he has cited, or indeed anywhere else, he can find scientific warranty for the assertion that there was a period of land—by which I suppose he means dry land (for submerged land must needs be as old as the separate existence of the sea)—"anterior to all life?"

It may be so, or it may not be so; but where is the evidence which would justify anyone in making a positive assertion on the subject? What competent paleontologist will affirm, at this present moment, that he knows anything about the period at which life originated, or will assert more than the extreme probability that such origin was a long way antecedent to any traces of life at present known? What physical geologist will affirm that he knows when dry land began to exist, or will say more than that it was probably very much earlier than any extant direct evidence of terrestrial conditions indicates?

I think I know pretty well the answers which the authorities quoted by Mr. Gladstone would give to these questions; but I leave it to them to give them if they think fit.

If I ventured to speculate on the matter at all, I should say it is by no means certain that sea is older than dry land, inasmuch as a solid terrestrial surface may very well have existed before the earth was cool enough to allow of the existence of fluid water. And in this case dry land may have existed before the sea. As to the first appearance of life, the whole argument of analogy, whatever it may be worth in such a case, is in favor of the absence of living beings until long after the hot water seas had constituted themselves; and of the subsequent appearance of aquatic before terrestrial forms of life. But whether these "proto-

plants" would, if we could examine them, be reckoned among the lowest microscopic algæ, or fungi, or among those doubtful organisms which lie in the debatable land between animals and plants, is, in my judgment, a question on which a prudent biologist will reserve his opinion.

I think that I have now disposed of those parts of Mr. Gladstone's defense in which I seem to discover a design to rescue his solemn "plea for Revelation." But a great deal of the "Proem to Genesis" remains which I would gladly pass over in silence, were such a course consistent with the respect due to so distinguished a champion of the "reconcilers."

I hope that my clients—the people of average opinions—have by this time some confidence in me; for when I tell them that, after all, Mr. Gladstone is of opinion that the "Mosaic record" was meant to give moral and not scientific instruction to those for whom it was written, they may be disposed to think that I must be misleading them. But let them listen further to what Mr. Gladstone says in a compendious but not exactly correct statement respecting my opinions:

He holds the writer responsible for scientific precision; I look for nothing of the kind, but assign to him a statement general, which admits exceptions; popular, which aims mainly at producing moral impressions; summary, which cannot but be open to more or less of criticism of detail. He thinks it is a lecture. I think it is a sermon (p. 77).

I note, incidentally, that Mr. Gladstone appears to consider that the *differentia* between a lecture and a sermon is that the former, so far as it deals with matters of fact, may be taken seriously, as meaning

exactly what it says, while a sermon may not. I have quite enough on my hands without taking up the cudgels for the clergy, who will probably find Mr. Gladstone's definition unflattering.

But I am diverging from my proper business, which is to say that I have given no ground for the ascription of these opinions, and that, as a matter of fact, I do not hold them, and never have held them. It is Mr. Gladstone, and not I, who will have it that the Pentateuchal cosmogony is to be taken as science.

My belief, on the contrary, is, and long has been, that the Pentateuchal story of the creation is simply a myth. I suppose it to be a hypothesis respecting the origin of the universe which some ancient thinker found himself able to reconcile with his knowledge, or what he thought was knowledge, of the nature of things, and therefore assumed to be true. As such, I hold it to be not merely an interesting but a venerable monument of a stage in the mental progress of mankind, and I find it difficult to suppose that any one who is acquainted with the cosmogonies of other nations—and especially with those of the Egyptians and the Babylonians, with whom the Israelites were in such frequent and intimate communication—should consider it to possess either more or less scientific importance than may be allotted to these.

Mr. Gladstone's definition of a sermon permits me to suspect that he may not see much difference between that form of discourse and what I call a myth; and I hope it may be something more than the slowness of apprehension to which I have confessed which leads me to imagine that a statement which is "general" but "admits exceptions," which is "popular" and "aims mainly at producing moral impressions,"

"summary" and therefore open to "criticism of detail," amounts to a myth, or perhaps less than a myth. Put algebraically, it comes to this: $x=a+b+c$; always remembering that there is nothing to show the exact value of either a , or b , or c . It is true that a is commonly supposed to equal 10, but there are exceptions, and these may reduce it to 8, or 3, or 0; b also popularly means 10, but being chiefly used by the algebraist as a "moral" value, you cannot do much with it in the addition or subtraction of mathematical values; c also is quite "summary," and if you go into the details of which it is made up, many of them may be wrong, and their sum total equal to 0, or even to a minus quantity.

Mr. Gladstone appears to wish that I should (1) enter upon a sort of essay competition with the author of the Pentateuchal cosmogony; (2) that I should make a further statement about some elementary facts in the history of Indian and Greek philosophy; and (3) that I should show cause for my hesitation in accepting the assertion that Genesis is supported, at any rate to the extent of the first two verses, by the nebular hypothesis.

A certain sense of humor prevents me from accepting the first invitation. I would as soon attempt to put Hamlet's soliloquy into a more scientific shape. But if I supposed the "Mosaic writer" to be inspired, as Mr. Gladstone does, it would not be consistent with my notions of respect for the supreme being to imagine him unable to frame a form of words which should accurately, or at least not inaccurately, express his own meaning. It is sometimes said that, had the statements contained in the first chapter of Genesis been scientifically true, they would have been unintel-

ligible to ignorant people; but how is the matter mended if, being scientifically untrue, they must needs be rejected by instructed people?

With respect to the second suggestion, it would be presumptuous in me to pretend to instruct Mr. Gladstone in matters which lie as much within the province of literature and history as in that of science; but if anyone desirous of further knowledge will be so good as to turn to that most excellent and by no means recondite source of information, the *Encyclopedia Britannica*, he will find, under the letter *E*, the word "Evolution," and a long article on that subject. Now, I do not recommend him to read the first half of the article; but the second half, by my friend Mr. Sully, is really very good. He will there find it said that in some of the philosophies of ancient India the idea of evolution is clearly expressed: "Brahma is conceived as the eternal self-existent being, which, on its material side, unfolds itself to the world by gradually condensing itself to material objects through the gradations of ether, fire, water, earth, and other elements."

And again: "In the later system of emanation of Sankhya there is a more marked approach to a materialistic doctrine of evolution." What little knowledge I have of the matter—chiefly derived from that very instructive book, "*Die Religion of Buddha*," by C. F. Koeppen, supplemented by Hardy's interesting works—leads me to think that Mr. Sully might have spoken much more strongly as to the evolutionary character of Indian philosophy, and especially of that of the Buddhists. But the question is too large to be dealt with incidentally.

And with respect to early Greek philosophy* the seeker after additional enlightenment need go no further than the same excellent storehouse of information:

The early Ionian physicists, including Thales, Anaximander, and Anaximenes, seek to explain the world as generated out of a primordial matter which is at the same time the universal support of things. This substance is endowed with a generative or transmutative force by virtue of which it passes into a succession of forms. They thus resemble modern evolutionists, since they regard the world, with its infinite variety of forms, as issuing from a simple mode of matter.

Further on, Mr. Sully remarks that "Heraclitus deserves a prominent place in the history of the idea of evolution," and he states, with perfect justice, that Heraclitus has foreshadowed some of the special peculiarities of Mr. Darwin's views. It is indeed a very strange circumstance that the philosophy of the great Ephesian more than adumbrates the two doctrines which have played leading parts, the one in the development of Christian dogma, the other in that of natural science. The former is the conception of the Word which took its Jewish shape in Alexandria, and its Christian form† in that gospel which is usually referred to an Ephesian source of some five centuries later date; and the latter is that of the struggle for existence. The saying that "strife is father and king of all," ascribed to Heraclitus, would be a not inappropriate motto for the "Origin of Species."

*I said nothing about "the greater number of schools of Greek philosophy," as Mr. Gladstone implies that I did, but expressly spoke of the "founders of Greek philosophy."

†See Heinze, *Die Lehre vom Logos*, p. 9, *et seq.*

I have referred only to Mr. Sully's article, because his authority is quite sufficient for my purpose. But the consultation of any of the more elaborate histories of Greek philosophy, such as the great work of Zeller, for example, will only bring out the same fact into still more striking prominence. I have professed no "minute acquaintance" with either Indian or Greek philosophy, but I have taken a great deal of pains to secure that such knowledge as I do possess shall be accurate and trustworthy.

In the third place, Mr. Gladstone appears to wish that I should discuss with him the question whether the nebular hypothesis is or is not confirmatory of the Pentateuchal account of the origin of things. Mr. Gladstone appears to be prepared to enter upon this campaign with a light heart. I confess I am not, and my reason for this backwardness will doubtless surprise Mr. Gladstone. It is that, rather more than a quarter of a century ago (namely in February, 1859), when it was my duty, as president of the Geological Society, to deliver the anniversary address (reprinted in *Lay Sermons, Addresses, and Reviews*, 1870), I chose a topic which involved a very careful study of the remarkable cosmogonical speculation originally promulgated by Immanuel Kant, and subsequently by Laplace, which is now known as the nebular hypothesis. With the help of such little acquaintance with the principles of physics and astronomy as I had gained, I endeavored to obtain a clear understanding of this speculation in all its bearings. I am not sure that I succeeded; but of this I am certain, that the problems involved are very difficult, even for those who possess the intellectual discipline requisite for dealing with them. And it was

this conviction that led me to express my desire to leave the discussion of the question of the asserted harmony between Genesis and the nebular hypothesis to experts in the appropriate branches of knowledge. And I think my course was a wise one; but as Mr. Gladstone evidently does not understand how there can be any hesitation on my part, unless it arises from a conviction that he is in the right, I may go so far as to set out my difficulties.

They are of two kinds—exegetical and scientific. It appears to me that it is vain to discuss a supposed coincidence between Genesis and science, unless we have first settled, on the one hand, what Genesis says, and, on the other hand, what science says.

In the first place, I cannot find any consensus among Biblical scholars as to the meaning of the words, "In the beginning God created the heaven and the earth." Some say that the Hebrew word *bara*, which is translated "create," means "made out of nothing." I venture to object to that rendering, not on the ground of scholarship, but of common sense. Omnipotence itself can surely no more make something "out of" nothing than it can make a triangular circle. What is intended by "made out of nothing" appears to be "caused to come into existence," with the implication that nothing of the same kind previously existed. It is further usually assumed that "the heaven and the earth" means the material substance of the universe. Hence the "Mosaic writer" is taken to imply that where nothing of a material nature previously existed, this substance appeared. That is perfectly conceivable, and therefore no one can deny that it may have happened. But there are other very authoritative critics who say that the

ancient Israelite* who wrote the passage was not likely to have been capable of such abstract thinking, and that, as a matter of philology, *bara* is commonly used to signify the "fashioning," or "forming," of that which already exists. Now it appears to me that the scientific investigator is wholly incompetent to say anything at all about the first origin of the material universe. The whole power of his organon vanishes when he has to step beyond the chain of natural causes and effects. No form of the nebular hypothesis that I know of is necessarily connected with any view of the origination of the nebular substance. Kant's form of it expressly supposes that the nebular material from which one stellar system starts may be nothing but the disintegrated substance of a stellar and planetary system which has just come to an end. Therefore, so far as I can see, one who believes that matter has existed from all eternity has just as much right to hold the nebular hypothesis as one who believes that matter came into existence at a specified epoch. In other words, the nebular hypothesis and the creation hypothesis, up to this point, neither confirm nor oppose one another.

Next, we read in the revisers' version, in which I suppose the ultimate results of critical scholarship to be embodied: "And the earth was waste [without form, in the authorized version] and void." Most people seem to think that this phraseology intends to imply that the matter out of which the world was to be formed was a veritable "chaos" devoid of law

*"Ancient," doubtless, but his antiquity must not be exaggerated. For example, there is no proof that the "Mosaic" cosmogony was known to the Israelites of Solomon's time.

and order. If this interpretation is correct, the nebular hypothesis can have nothing to say to it. The scientific thinker cannot admit the absence of law and order, anywhere or any when, in nature. Sometimes law and order are patent and visible to our limited vision; sometimes they are hidden. But every particle of the matter of the most fantastic-looking nebula in the heavens is a realm of law and order in itself, and that it is so is the essential condition of the possibility of solar and planetary evolution from the apparent chaos.*

"Waste" is too vague a term to be worth consideration. "Without form," intelligible enough as a metaphor, if taken literally, is absurd; for a material thing existing in space must have a superficies, and if it has a superficies it has a form. The wildest streaks of mare's tail clouds in the sky, or the most irregular heavenly nebulae, have surely just as much form as a geometrical tetrahedron; and as for "void," how can that be void which is full of matter? As poetry, these lines are vivid and admirable; as a scientific statement, which they must be taken to be if any one is justified in comparing them with another scientific statement, they fail to convey any intelligible conception to my mind.

The account proceeds: "And darkness was upon the face of the deep." So be it; but where, then, is the likeness to the celestial nebulae, of the existence of which we should know nothing unless they shone with a light of their own? "And the spirit of God

*When Jeremiah (iv. 23) says, "I beheld the earth, and, lo, it was waste and void," he certainly does not mean to imply that the form of the earth was less definite, or its substance less solid, than before.

moved upon the face of the waters." I have met with no form of the nebular hypothesis which involves anything analogous to this process.

I have said enough to explain some of the difficulties which arise in my mind when I try to ascertain whether there is any foundation for the contention that the statements contained in the first two verses of Genesis are supported by the nebular hypothesis. The result does not appear to me to be exactly favorable to that contention. The nebular hypothesis assumes the existence of matter having definite properties as its foundation. Whether such matter was created a few thousand years ago, or whether it has existed through an eternal series of metamorphoses of which our present universe is only the last stage, are alternatives, neither of which is scientifically untenable, and neither scientifically demonstrable. But science knows nothing of any stage in which the universe could be said, in other than a metaphorical and popular sense, to be formless or empty, or in any respect less the seat of law and order than it is now. One might as well talk of a fresh-laid hen's egg being "without form and void," because the chick therein is potential and not actual, as apply such terms to the nebulous mass which contains a potential solar system.

Until some further enlightenment comes to me, then, I confess myself wholly unable to understand the way in which the nebular hypothesis is to be converted into an ally of the "Mosaic writer."*

*In looking through the delightful volume recently published by the Astronomer Royal for Ireland, a day or two ago, I find the following remarks on the nebular hypothesis,

But Mr. Gladstone informs us that Professor Dana and Professor Guyot are prepared to prove that the "first or cosmogonical portion of the Proem not only accords with, but teaches, the nebular hypothesis." There is no one to whose authority on geological questions I am more readily disposed to bow than that of my eminent friend Professor Dana. But I am familiar with what he has previously said on this topic in his well-known and standard work, into which, strangely enough, it does not seem to have occurred to Mr. Gladstone to look before he set out upon his present undertaking; and unless Professor Dana's latest contribution (which I have not yet met with) takes up altogether new ground, I am afraid I shall not be able to extricate myself, by its help, from my present difficulties.

It is a very long time since I began to think about the relations between modern scientifically ascertained truths and the cosmogonical speculations of the

which I should have been glad to quote in my text if I had known them sooner:

"Nor can it be ever more than a speculation; it cannot be established by observation, nor can it be proved by calculation. It is merely a conjecture, more or less plausible, but perhaps, in some degree, necessarily true, if our present laws of heat, as we understand them, admit of the extreme application here required, and if the present order of things has reigned for sufficient time without the intervention of any influence at present known to us" (*The Story of the Heavens*, p. 506).

Would any prudent advocate base a plea, either for or against revelation, upon the coincidence, or want of coincidence, of the declarations of the latter with the requirements of a hypothesis thus guardedly dealt with by an astronomical expert?

writer of Genesis; and, as I think that Mr. Gladstone might have been able to put his case with a good deal more force if he had thought it worth while to consult the last chapter of Professor Dana's admirable "Manual of Geology," so I think he might have been made aware that he was undertaking an enterprise of which he had not counted the cost if he had chanced upon a discussion of the subject which I published in 1877.*

Finally, I should like to draw the attention of those who take interest in these topics to the weighty words of one of the most learned and moderate of Biblical critics:

A propos de cette première page de la Bible, on a coutume de nos jours de disserter, à perte de vue, sur l'accord du récit mosaïque avec les sciences naturelles; et comme celles-ci, tout éloignées qu'elles sont encore de la perfection absolue, ont rendu populaires et en quelque sorte irréfragables un certain nombre de faits généraux ou de thèses fondamentales de la cosmologie et de la géologie, c'est le texte sacré qu'on s'évertue à torturer pour le faire concorder avec ces données (Reuss, *L'Histoire Sainte et la Loi*, i, 275).†

In my paper on "The Interpreters of Genesis and

*Lectures on Evolution delivered in New York. (American Addresses.)

†TRANSLATION.—In reference to this first page of the Bible, it has become now the custom to discuss it copiously from the wrong standpoint, or at random, on the agreement or harmony of the Mosaic record with the natural sciences; and as these, far removed as they may yet be from absolute perfection, have undoubtedly rendered popular and in a degree irrefutable a certain number of general facts or fundamental theses relating to cosmology and geology, the sacred text is strained and twisted in order to make it agree with these admitted facts,

the Interpreters of Nature," while freely availing myself of the rights of a scientific critic, I endeavored to keep the expression of my views well within those bounds of courtesy which are set by self-respect and consideration for others. I am therefore glad to be favored with Mr. Gladstone's acknowledgment of the success of my efforts. I only wish that I could accept all the products of Mr. Gladstone's gracious appreciation, but there is one about which, as a matter of honesty, I hesitate. In fact, if I had expressed my meaning better than I seem to have done, I doubt if this particular proffer of Mr. Gladstone's thanks would have been made.

To my mind, whatever doctrine professes to be the result of the application of the accepted rules of inductive and deductive logic to its subject-matter, and accepts, within the limits which it sets to itself, the supremacy of reason, is Science. Whether the subject-matter consists of realities or unrealities, truths or falsehoods, is quite another question. I conceive that ordinary geometry is science, by reason of its method, and I also believe that its axioms, definitions, and conclusions are all true. However, there is a geometry of four dimensions, which I also believe to be science, because its method professes to be strictly scientific. It is true that I cannot conceive four dimensions in space, and therefore, for me, the whole affair is unreal. But I have known men of great intellectual powers who seemed to have no difficulty either in conceiving them, or at any rate in imagining how they could conceive them, and therefore four-dimensional geometry comes under my notion of science.

So I think astrology is a science, in so far as it pro-

fesses to reason logically from principles established by just inductive methods. To prevent misunderstanding, perhaps I had better add that I do not believe one whit in astrology; but no more do I believe in Ptolemaic astronomy, or in the catastrophic geology of my youth, although these, in their day, claimed—and, to my mind, rightly claimed—the name of science. If nothing is to be called science but that which is exactly true from beginning to end, I am afraid there is very little science in the world outside mathematics. Among the physical sciences I do not know that any could claim more than that each is true within certain limits, so narrow that, for the present, at any rate, they may be neglected. If such is the case, I do not see where the line is to be drawn between exactly true, partially true, and mainly untrue forms of science. And what I have said about the current theology at the end of my paper leaves, I think, no doubt as to the category in which I rank it. For all that, I think it would be not only unjust, but almost impertinent, to refuse the name of science to the "Summa" of St. Thomas or to the "Institutes" of Calvin.

In conclusion, I confess that my supposed "un-jaded appetite" for the sort of controversy in which it needed not Mr. Gladstone's express declaration to tell us he is far better practised than I am (though probably, without another express declaration, no one would have suspected that his controversial fires are burning low) is already satiated.

In "Elysium" we conduct scientific discussions in a different medium, and we are liable to threatenings of asphyxia in that "atmosphere of contention" in

which Mr. Gladstone has been able to live, alert and vigorous beyond the common race of men, as if it were purest mountain air. I trust that he may long continue to seek truth, under the difficult conditions he has chosen for the search, with unabated energy—I had almost said fire :

May age not wither him, nor custom stale
His infinite variety.

But Elysium suits my less robust constitution better, and I beg leave to retire thither, not sorry for my experience of the other region—no one should regret experience—but determined not to repeat it, at any rate in reference to the “plea for Revelation.”

T. H. HUXLEY.

A PROTEST AND A PLEA.

BY MRS. E. LYNN LINTON.

In the *Nineteenth Century* of last November Mr. Gladstone published a remarkable article, which has already received two answers. Professor Huxley has dealt with its science, Professor Max Müller with its mythology and etymology; and even the "Ulysses of dialectics" will, I think, find it hard to reply to or refute either the one or the other. This protest of mine is founded on a much smaller point, but one on which I am entitled to speak, inasmuch as Mr. Gladstone did me the honor to allude to me directly and by quotation, though not by name.

The phrase to which I object occurs in a paragraph which expresses surprise "not only at the fact, but at the manner in which in this day, writers, whose name is legion, unimpeached in character and abounding in talent, not only put away from them, cast into shadow or into the very gulf of negation itself, the conception of a deity, an acting and ruling deity. Of this belief, which has satisfied the doubts, and wiped away the tears, and found guidance for the footsteps of so many a weary wanderer on earth, which among the best and greatest of our race has been so cherished by those who had it, and so longed and sought for by those who had it not, we might suppose that if at length we had discovered that it was in the light of truth untenable, that the accumulated testimony of man was worthless, and that his wisdom was but

folly, yet at least the decencies of mourning would be vouchsafed to this irreparable loss. Instead of this, it is with *a joy and exultation that might almost recall the frantic orgies of the Commune* that this, at least at first sight, terrific and overwhelming calamity is accepted and recorded as a gain." (The italics are my own.)

The phrase is cruel, misdirecting, unjust. As reverently as those who believe that the Bible is the word of God—the *ipsissima verba*—and the church of Christ the sole ark of salvation, do we, who doubt of both, worship the truth and stretch out our hands to the light. If we think that such religions as the world has hitherto seen have been subjective and not given from without—self-generated and not revealed—it is not because we are indifferent to the religious idea, not because we want to get rid of a restraining moral influence, nor yet because we despise the consolations of faith and the peace which follows prayer. It is simply because certain things, integral to those revelations, cannot stand the test of scientific truth, and fall to pieces under the touch of reason. And what is this joy, this exultation, to which Mr. Gladstone assigns so shameful a parallelism? Is it in our sense of freedom, through our deliverance from the cruel superstitions which have overwhelmed brave men with abject terror, reduced feeble minds to imbecility and inflamed ardent ones to madness—which have ruined the happiness of multitudes, destroyed innumerable lives, and put instruments of torture into the hands of fanatics wherewith to oppress their victims, till the hell they preached was translated to earth, and the devil they painted was embodied in their own persons? Must

we bury that devil with the "decencies of mourning," and hang up wreaths of parsley and crowns of immortelles on the closed gates of hell? Yet neither the one nor the other is to be extricated from the correlative ideas of God and heaven as given to us by the Bible and the Christian churches. What is our exultation? To feel that we are men, surrounded by unfathomable mysteries, but free from the fears which desolate and degrade—to feel that we can look up to heaven above unabashed if questioning—that we are one with the nature we do not yet understand, but part of the whole, and not ruled off to a special destiny of eternal torment—to have broken our ghastly idol, the Moloch of our sorrow, bloodstained and tear-bedewed, and to have enshrined in its place Infinity and Law—this is our joy, deep, solemn, self-respecting, abiding; and we would that all humanity shared it. But to question the objective truth of the anthropomorphic religions accepted by man as revelations, and to have cast from us the hideous superstitions bound up with them, is not to repeat the "frantic orgies of the Commune."

The theory of direct revelation creates a dilemma from which I see no escape. Either it is necessary for the spiritual well-being of man that truths taught by God himself should be known and believed, or it is not. If the former, then we are landed in the mystery of Partiality and the Favored Nation; with the corollary of injustice to those excluded for no fault of their own—by the mere accident of their birth deprived of benefits essential to their eternal happiness. If the latter, then it seems scarcely worth the trouble for Omnipotence to have delivered a message in the tremendous form assumed by Christians,

if the fate of the excluded is not touched thereby, and everything is made pleasant at last for every one all round. If we accept the theory of a Unified Truth delivered by direct revelation, we are forced into the position occupied by Roman Catholics and Mohammedans—that is, the exclusion of unbelievers from the privileges promised to the faithful—and the consequent injustice of the divine being, who favors some and disinherits others, irrespective of personal merits and for motives of pure caprice.

Better than a divine source seems to me the purely human origin of this belief in a specialized and partial revelation, and how it is the translation into religion of that passionate patriotism which makes its own tribe, race, nation, the finest in the world, the preservation and supremacy of which is of the first importance. It is no other than the egotism which is necessary for self-preservation, but which cannot bear the test of reason exterior to itself. Standing apart from all, and impartial to all, we can judge better than when we are face to face with one alone. And standing apart, judging for the whole human race and on the broad grounds of equal justice, we see how infinitely unjust would be any partial revelation—any creation of a favored nation which should exclude from participation in its benefits the innocent disinherited. If we find joy, too, in this deliverance from the injustice involved in partial, local, and racial revelations—revelations made to some and withheld from others—it is because we open the doors of truth to all humanity alike—making it general and not special—because we think our spiritual democracy a nobler thing than the creation of an aristocracy among souls, where inherited belief in Christ, Mo-

ammed, Jehovah, or Vishnu confers celestial rank and eternal privileges, denied to the excluded. But to see only the mind of man in concrete religious systems is not to deny nor to despise the religious idea—the instinct of reverence for the Highest Ideal—the worship which is inspired by the sense of Infinity—the confession of that Something beyond ourselves and our knowledge, which some men call God, and others the Unknowable, and others, again, the Law of Righteousness by which we are governed and to which we strive to attain.

The very fact that there are more religions than one in the world, and that each consoles and sustains its worshiper, surely of itself proves the subjective quality of creeds. Who can deny the power which belief in the gods of Olympus had on men? When wild thoughts and tumultuous desires disturbed the Greek girl's heart, did she derive no calming spiritual influence when she fled to the altar of Artemis and laid her offerings before the goddess, beseeching her divine support? Where was the difference between her prayer and that of her younger sister who kneels before the shrine of the Virgin to-day, or turns in fear of herself to her patron saint, her guardian angel, asking each to defend her from sinful thoughts? Was the story of Actæon, slain for his presumptuous intrusion on divine privacy, less real to the Greek than is to the Jew that of the fifty thousand and three score and ten men of Beth-shemesh, smitten because they had looked into the Ark of the Lord? When women, in their hour of trial, cried out to Lucina, was it with a different feeling from that which makes the Sicilian invoke the aid of la Madonna della Catena? Was the mystery of the birth of

Dionysos more incredible than that of the Miraculous Conception, or the avatar of Crishna? Like our own Divine Triad, unseen by excess of light, hidden behind the clouds, veiled in the summer sunshine, heard in the tempest, and present in the darkness of the night, ever unseen but ever there, the gods of Olympus drew in council together and watched over the affairs of the men they had made. And the pious believed what they did not see, and worshiped by faith, not knowledge. When some bold skeptic denying possibility, or ardent believer seeking to realize his faith, climbed to the top of the Sacred Hill, searching for proof, what did he find? Was there but one feather of eagle or of dove, of peacock or of owl, to attest the truth of the greater by the evidence of the less?—one solitary stain of the old gray stone, swept by the wind and bleached by the snow, which showed where the nectar had fallen from Hebe's cup or Ganymede's unpracticed hand?—one spangle of gold from the girdle worn by the "Most Beautiful?" Was there one smallest material proof of the existence of those Divine Twelve, to whom so many temples had been raised, so many prayers addressed? Do we believe their objective existence now? and have we buried them with the "decencies of mourning?" What to us is that vision of Athene which inspired the artist and cheered the faint and feeble?—what the worth of those processions and prayers, those offerings and sacrifices, which then were held all-powerful to avert war or secure victory, to give good crops to the land and bring divine favor to the devout? What to us are those divine advocacies or enmities in which Achaian and Trojan so implicitly trusted? Do we believe in the visit of Jove and Mercury to Baucis

and Philemon—even those of us who accept as divine the stories in the Bible of how God and his angels came down to visit Adam and Eve, Abram and Sara, Moses and Mary? Where are the satyrs who frightened the nymphs in the woods, and the fauns who linked the human with the brute? Where are the rude gods of the river, fathers of men?—the Eumenides and Ate, Styx and Cerberus? Do we not now confess their phantasmal, subjective, self-generated existence? Do we not say: "These things never were, but were only thought to be?" Yet one of the charges which cost Socrates his life was that he despised the tutelary deities of the state, *putting in their place another divinity*; which was as if a medieval Spaniard should have denied the actual appearance of Saint Jago at the battle of Clavijo; or his brother monks have questioned the holy visitation to Fra Angelico; or as when some modern thinker stands apart from the anthropomorphism of the Christian creed, doubts direct revelation, and questions the divine authorship of the first chapter of Genesis, in favor of unchangeable law and progressive improvement in knowledge, brain-power, and cosmic conceptions.

Admit the theory of an Omnipotent Artificer outside Law—of an Author of Creation who could have made all things differently if he would—and we are caught in a network of contradictions from which there is no possibility of freeing ourselves. Where do we find the benevolence of that acting and ruling deity, belief in whom has, truly enough, "satisfied the doubts, wiped away the tears, and found guidance for the footsteps of so many a weary wanderer on the earth?" Not in nature, of which man is but one

manifestation among the countless millions. All through nature we find pain and strife and death as the charter of existence. The weak are the prey of the strong, and life must incessantly be sacrificed that life may continue to exist. We make great account of our own pains, and put up prayers in churches when certain microscopic organisms have taken possession of us, and are rapidly destroying our vitality; but who prays Omnipotence for the small crab held down by the big one, and slowly picked to death by those ruthless pincers tearing fragment after fragment from the quivering flesh beneath the shell? What feebler-winged creature invokes supernatural aid against the terrible dragonfly, the murderous wasp, bearing down on it for destruction? Look at the spider, the vulture, the tiger, the cannibal, and the tyrant among men. Are they not all parts of one great whole—integral to creation as it is—different manifestations of the same law? But if not the result of law, working inexorably and automatically from its own center, then are they the deliberate work of an independent creator, who might have done differently and more mercifully if he would. In which theory lies the most reasonableness and the most humility?—in that which confesses ignorance of the *causa causans*, or in that which creates unanswerable contradictions because of its declaration of knowledge, and its ascription of pain, misery, and death to the will of a beneficent deity and an omnipotent and all-wise father?

If there be any truth in science at all, and astronomy, geology, chemistry, biology are not so many delusions of the senses, there was a time when our ancestor—whom, for want of a better term, we call

Primitive Man—was removed from the brute only inasmuch as he had a more erect carriage, a little bigger brain, and more completely differentiated members. Of religion, morality, decency, pity, social law, patriotism, he understood no more than the ape, his brother. He was as much outside the pale of the moral law as the spider or the vulture. In his murders, his cannibalism, his bestialities was no sin, because there was no knowledge. He was simply a brute, inclosing in himself potentialities of future development. The product of the law of evolution, he had within him the power of evolution. By slow degrees his brain grew and his thoughts ripened. He learnt the value of fixed laws for government, and the consequent need of obedience, with punishment for infraction. He developed a conscience, and he developed morality; and among his moral qualities he developed pity for suffering. Fear of the pitiless elements, of the ferocity of wild beasts, ignorance of causes and consequent fear of results, together with dreams, sickness and death, had already created an Elemental God. When the social conscience was born, the creation of a Moral God, the pitiful helper of man, followed as of necessity—by the same law as that which created the elemental deity, and made visible fetishes of stones and trees, prefacing the graven images and painted idols. Imperfect social conditions necessitated a Court of Ultimate Appeal. The man oppressed here by his stronger superior, and helpless in a state of society where might was right and law was not justice, needed some one to redress his wrongs—if not now nor here, yet in the future—the beyond. The tyranny of the potent kings must be punished by the wrath of the one omnipotent; the suffer-

ings of the innocent and helpless must be avenged by the eternal ruler who holds the scales and metes out justice. But our God was, and is, the transcript of our social condition—the measure of our knowledge. The social and personal wrongs of which we make so much account are but the translation into human action of the material sufferings pervading all animate creation. Why must a man be eternally compensated for a cruel and untimely death, or for the loss of his worldly goods and gear, while the worm, pulled asunder by two blackbirds or slowly devoured by flies—which tried Frederick Robertson's faith so sharply—the smaller lobster, which is ejected from its safe hiding-place among the rocks and thrown out into the waste of the sea to perish by its enemies, is but fulfilling its appointed destiny, without which life would not exist at all? This necessity for a Court of Ultimate Appeal and a righteous Judge who shall compensate those who have been afflicted here, while punishing the oppressors, seems to me no more a necessity when life is over than compensation for the worm or the lobster. Each is the same thing, differentiated by circumstances and conditions—the homogeneity of nature and the invariability of the universal law being surely among the first lessons to be learned by those who dare to think.

Better and truer than the individual consolations of eternity are the general ameliorations wrought in time. By the law of evolution which rules society—the expression of man's mind—just as it rules the translation of organisms, wrong and injustice create better laws when the human brain has advanced to the point when it can understand that injustice and shape a nobler ideal. The world, which in its bar-

barous nonage prostrates itself at the feet of crowned robbers covetous of their neighbors' vineyards—of royal murderers setting obstructive husbands in the front of the battle that the wives may be possessed in peace—in its manhood sees the greater good of equal justice to all, and preaches the nobler law of rights and duties as against that of submission and privileges. The specialized inheritance of the few enlarges itself into the generous democracy of Christ, which swept down the barriers of the court and rent the veil of the temple. The Favored Nation was called on to share; the aristocrats of heaven had to enlarge their borders, and the Elect to add new thrones to their number. But as presbyter, once a liberal protest, grew to be only "old priest writ large," so Christianity, which was in the beginning as wide as humanity, by the law of consolidation and contraction working in things spiritual as well as material, has become as close a guild and as exclusive a sect as the Judaism it was pledged to displace. By the dogma of a Unified Truth, of a divine and direct revelation, giving privileges to those who believe and entailing loss on those who are excluded, the Savior, whose salvation was in his universality, has been narrowed into a sectarian deity, like Jehovah, like Allah, like Vishnu. It is the Agnostic who now takes up this lapsed creed of universality—who preaches afresh the democracy of souls—who, in his belief that the religious idea is one to be improved and finally perfected by evolution and knowledge, sees the true salvation of men and their final redemption from error. In this belief lie his hope for the future and his patience with the present. He trusts to time to carry on the work of mental enlargement, as it has

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already, together with that of physical improvement; he trusts to science to give us increase of veritable knowledge—and he knows that his trust is not in vain.

All bitterness and reproach, all persecution and scorn, are among the things dead and done with to the Agnostic. As little as he would curse the elements which wrecked his house and ruined his land would he curse—though he would prevent—the spiritual cruelties of his brother, acting according to the law of an uneducated mind, a brutish nature, and walking by the dim light of that dawn which is not yet morning. He knows that humanity must fulfil the universal law, and from low, amorphous beginnings reach up to moral nobleness and spiritual beauty. He knows that all society is experimental, all laws are tentative; that the stream of tendency does indeed make for righteousness, with many windings and much doubling back on its way, but always flowing onward from the darkness to the light—from the narrow rock in the mountain to the broad and infinite sea. In the abhorrence which good men feel for crime he sees the ultimate destruction of crime; in the great Man-God which forms the ideal of all religions he sees the projection of humanity itself on the screen of the future; in the fact that this humanity has ever touched the level of Moses, Buddha, Christ, he sees the possibilities of the whole race. He knows and humbly confesses the great wall of the Unknown between him and the Ultimate Verity. But in measuring where he stands now from that brutish Primitive who was his ancestor, he sees no limit to further infinite advance. He sees no limit save that of the individual. Every man must be born

helpless, and if he lives to the end of his tether he must die decayed, carrying his experiences with him. All the same the race survives.

Let it be so. The individual is nothing. He is no more than the diatom, the bit of protoplasm which helps to make a geological stratum and a biological world. From the individual as he is now—striving after righteousness, suffering for truth, offering himself as a fragment in the great stepping-stone—will come the race which shall some day be as gods, knowing good and evil. The storms of the present may wither the vines and blight the fig-trees, but the roots remain; and it is better to be among the eternal roots of Yggdrasil, barren of beauty for ourselves, but helping in the life and solace of others, than to be one of the fairest of the annuals—things born of the day and perishing with the day, leaving nothing permanent nor solid behind. Ah! better than all personal gain of riches or of love, which perish with our lives, is that immortality of influence found in the example of those who have done a noble deed or spoken a brave truth! Worst of all the errors, most deadly of all the irreligious denials, is that egotistic preference of individual gain over the general well-being. Not against those who doubt the divine personality they cannot see—who question the fatherly care and beneficence of an omnipotent artificer who has made sorrow, suffering disease, and death necessities of existence—but against the egotists who make the unit of more importance than the whole should such men as Mr. Gladstone turn their arms. Speculative opinions are incapable of proof, but moral heroism is a certain quantity; and the belief in and practice of Altruism are essentially parts of that code

which has to come to the front in the future. Once men did not see the higher ideal contained in the spiritualized Lord whom Paul preached, over the deities whom Ovid vulgarized. They preferred their joyous hymns and picturesque processions to the colder, more sublime, less tangible worship of the "pale Galilean," belief in whom included the socialism of general poverty for this world and the hope of happiness transferred from life here to life after death. What was it to the joyous Greek, to the strong and sensual Roman, to whom Hades was but a world of shadows, to be told to give up all here—all that was lovable, pleasurable, tangible—for the hypothetical joys of heaven? Did he not say: "I will take when I can and hold by what I know?" just as those to whom Altruism is unwelcome because of its destruction of egotism say: "What to me is the race? *I suffer—I love—I desire*; what do I care for the rest?" But it has to come. The nobler life is inevitable; and the day when Duty shall overcome Pleasure, and Altruism be stronger than Individualism, is as certain in the future as is the calculation of an eclipse or a new discovery in chemistry.

The loss out of his life of a personal deity does not dismay the Agnostic, and the destruction of his belief in direct revelation has not left him desolate. As a brave man knows how to die and pass into the darkness of the grave with calmness and dignity, so a brave soul knows how to live by the light of an educated conscience only—that conscience being the result of gradual development, as much as is the sense of justice and the consciousness of shame. He waits for the time when better knowledge shall enable men to reconcile the mystery of the material cruelty

of nature with the pity, the justice, the moral sense, which are the active and substantive possessions of man only—who, after all, is only matter conscious of itself to the highest degree yet attained. He does not know why the House of Life should be thus divided against itself, nor why he, who is only a higher translation of the Force which expresses itself in the worm and the crab, should feel pity when he sees the one pulled asunder by two blackbirds—a sickening kind of indignation when the living flesh of the other is being slowly picked out by the pincers of the stronger. One with nature, and the product of material things, his revulsion from the circumstances of his origin is not to be explained by the theory of a moral sense—that something extra added by the God who has originated these circumstances. This would be to make the creator ashamed of his own creation, and to make man his judge and assessor. It is a mystery; and the greatest of the many by which we are surrounded. Why matter, fully conscious of itself in the mind of man, should find the inevitable law, the unalterable conditions of life, cruel, and should do what it can to ameliorate them, is an enigma not to be explained away by the story of Adam and Eve—a talking snake standing erect—a God who walked in the garden in the cool of the evening—a Forbidden Tree and a Tree of Life—or any other of the mythological circumstances to which the orthodox pin their faith, finding them sufficient for their peace.

Let us go out into the open and judge for ourselves. Let us climb to the top of Mount Olympus, of Ararat, of Meru; let us lift up the lid of the Ark of the Covenant, enter the Sepulcher, touch the stone

at Mecca, feel the wheels of the car of Juggernaut, and test what we find by the aid of reason and such science as we possess. If we find there things which vanish as we look—things vaporous as clouds that cannot be held—unstable as the river mist which cannot be compelled—can we still believe in the objective existence of the faiths bound up with these things? Or shall we not rather say they are all of the same order—prophet and pythoness, angel and demigod, Madonna and Hera, Crishna and Christ, Jehovah and Zeus—they are all names, not persons, and all represent analogous conditions of brain differentiated by climate and the tendencies of the race? Beyond them all lies the boundless and impersonal Infinite—the grandeur of impartial law—the prizes to be won from the depths of the as yet unknown—and the one concrete imperishable essence of all religion—our duty to our fellow-men, and our duty in self-respect to ourselves.

Always the popular faith has been the last word, the supreme revelation, to those who believe; and always the first doubters—the Uhlans preceding the army of destroyers and subsequent reconstructors—have been made martyrs to their negation. To be said to doubt the tutelar deities of the city cost Socrates his life—Socrates, who, before all men, taught reverence and preached virtue. To deny that Jesus, the Son of Mary, was God Incarnate has cost many hundreds of lives. To question the divine mission of Mohammed has been as fatal to thousands as was the denial of the supremacy of Jehovah to the priests of Baal. The world reveres its idols, and looks neither to the fashion of their make nor to the passions they typify. Jealous or cruel, punishing the children for

the father's sin or demanding the sacrifice of the innocent for the redemption of the guilty—these idols are precious beyond all else, and their worship is held as dear as life itself. And ever the deniers of their divinity have been accused of preaching the wildest immorality as well as the most godless irreligion, and of desiring to break all the wholesome restraints which keep men from crime and vice and force them to obey the moral law. "The frantic orgies of the Commune!" Yes, that is the modern name for the old stone. It is always the same stone, renamed according to circumstances. But by and by the world comes up to these pioneers. Then it ceases to revile, and takes their place, crying out: "We knew all this before; you are telling us no new thing."

There is no more sin in questioning the objective truth of religious systems than there is in verifying a scientific position. We seek the truth, and the fact of this seeking is the proof that we have not yet found. "Judicial blindness" is the phrase of certainty so far as the individual is concerned. But his realization does nothing for another; on the contrary, that one man realizes one thing and his brother another incontestably proves the subjective quality of each creed. The cry of the human heart is yet unanswered, and the reconciling medium between man's moral sense and the natural law is yet to seek. The world stands with parched lips, waiting for the dew of Hermon by which its thirst will be slaked, and till we can reconcile these two opposing manifestations of the same Force it must remain unsatisfied. The solution is not to be found in the doctrine of Original Perfection, the Fall, and the consequent

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sufferings of all life for the childish disobedience of one man. Meanwhile, we who believe in the future of humanity by the law of progress wait, hoping and of good heart. Schools are our temples; science is our ritual; time is our heaven; the human race contains our future gods; and the Satan we have to conquer and to chain is that arid Egotism which despises for the race what it cannot enjoy in its own person, and cares more for the salvation of its own individuality than it does for the redemption of the world. If in this creed can be found any analogy to the frantic orgies of the Commune, I for one am content to stand in the pillory, and let Mr. Gladstone and his co-religionists pelt me at their pleasure.

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